United States Court of Appeals

for the Second Circuit

APPELLANT'S APPENDIX

76-6122

United States Court of Appeals

FOR THE SECOND CIRCUIT

Docket No. 76-6122

B

COUNTY OF SUFFOLK, COUNTY OF NASSAU, TOWN OF ISLIP, TOWN OF HEMPSTEAD, TOWN OF NORTH HEMPSTEAD, TOWN OF OYSTER BAY, TOWN OF HUNTINGTON, and the BOARD OF TRUSTEES OF THE TOWN OF HUNTINGTON and CONCERNED CITIZENS OF MONTAUK, INC.,

Appellees,

—against—

SECRETARY OF THE INTERIOR, ET AL., *Appellants,*
NATIONAL OCEAN INDUSTRIES ASSOCIATION, ET AL.,
and NEW YORK GAS GROUP, *Intervenor-Appellants.*

THE STATE OF NEW YORK and THE NATURAL RESOURCES DEFENSE COUNCIL, INC., *Appellees,*

—against—

THOMAS S. KLEPPE, Secretary of the Interior, *Appellant,*
NATIONAL OCEAN INDUSTRIES ASSOCIATION, ET AL.,
and NEW YORK GAS GROUP, *Intervenor-Appellants.*

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NEW YORK

UNITED STATES COURT OF APPEALS
FILED
SEP 14 1976
A. DANIEL FUSARO, CLERK
SECOND CIRCUIT

APPENDIX
(Volume I—A-1 to A-492)

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207/1	76	C 1229	06 29 76	2	APPEAL					injunction declaratory judgment	10715	J.		

PLAINTIFFS

THE STATE OF NEW YORK & ANO.

THE STATE OF NEW YORK and THE NATURAL RESOURCES ~~DEFENSE~~ DEFENSE COUNCIL INC.

DEFENDANTS

ILM

THOMAS S. KLEPPE, SECRETARY OF THE INTERIOR

CAUSE

Action under National Environmental Policy Act, 42 USC 4321 & other statutes including 43 USC 1331, 31 USC 483a, 16 USC 1451, 42 USC 4201 & 16 USC 1531, seeking declaratory judgment that the national accelerated oil and gas leasing program and Mid-Atlantic Lease Sale are in violation of law and seeking injunciton against the national program and the lease sale. Related case: 75C 208

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				JS-5	
				JS-6	

UNITED STATES DISTRICT COURT DOCKET

DC 111 (Rev. 1/75)

A 2

THE STATE OF NEW YORK v KLEPPE

DATE	NR.	PROCEEDINGS
6-29-76		Complaint filed. Summons issued. (1)cg
7-2-76		Summons ret and filed/executed. (3)
7-2-76		Stenographer's transcript dtd 6-30-76 filed in 75C 208. ----
7-16-76		Notice of motion ret 7-20-76 for an order enjoining and restraining the Secretary of the Interior from holding Outer Continental Shelf Oil and Gase Lease Sale No. 40 from taking any other action in furtherance or preparation for Lease Sale No 40 filed. (4)
7-19-76		Affidavit of J. Kaufman with memo of law in opposition to motion to intervene filed in 75-C-208. ---
7-20-76		Before WEINSTEIN,J Case called. 76C 1229 & 75C 208 are consolidated for the purpose of this hearing. Application to intervene of National Ocean Industries Assoc.; National Supply Co; Continental Inc.; Dresser Industries, Inc; Houston Oil & Minerals Corp; Levingston Shipbuilding Co; Murphy Oil Corp. Ocean Production Co is granted. Applicatin to intervene of N.Y. Gas Group is granted. Application of Associated Gas Dist. to participate as amicus is granted. Case set for hearing on 7-23-76 in Brooklyn. mg
7-21-76		Applicants for intervention memo re proposed procedures filed. (5)
7-21-76		Memorandum of law of application for intervention filed. (6)
7-21-76		Application for intervention filed. (7)
7-21-76		Memorandum of pltffs in support of motion for preliminary injunction filed. (8)
7-21-76		Motion for leave to participate as amicus curiae filed. (9)
7-21-76		Motion to intervene as defts pursuant to rules 24 filed. (10)
7-22-76		Notice to take deposition of Karen House filed. (11)
7-23-76		Information re proposed witness fro New York Gas Group filed. (12)
7-23-76		Affidavit in support of motion for preliminary injunctionfiled. (13)
7-23-76		Before WEINSTEIN,J.- Case called for motion enjoining deft etc., Hearing ordered and begun Hearing cont'd to 7-26-76
7-26-76		Before WEINSTEIN,J-Case called. Trial resumed. Trial cont'd to 7-27-76.
7-27-76		Amendment to designation of witnesses by intervenor defts NOIS et al filed. (14)
7-27-76		Designation of witnesses by intervenor-defts NOIA filed. (15)
7-27-76		Intervenor-defts' NOIA memorandum in opposition to pltffs' motion for preliminary injunction filed. (16)
7-27-76		Federal defts' memorandum in opposition to pltffs' motion for a preliminary injunction filed. (17)
7-27-76		Before WEINSTEIN,J.- Case called for hearing Trial resumed and Trial cont'd to 7-28-76
7-29-76		Deposition transcript of K. House filed. (18)
7/29/76		Before WEINSTEIN,J.- case called- trial resumed - trial contd to 7/30/76
7/29/76		Before WEINSTEIN,J- case called- trial resumed- trial contd to 7/30/76
7/30/76		Before WEINSTEIN,J/- case called- trial resumed- trial contd to 8/2/76
8/2/76		Memorandum of intervenor defts filed (entered in 75C208)
8/2/76		Federal deft supplemental memorandum filed(entered in 75C208)
8/2/76		Affidavit of E. Peter O'Hara filed(entered in 75C208)
8/2/76		Deft Texas memorandum of law in opposition to motion for preliminary injunction filed(entered in 75C208)
8/2/76		Answer to interrogatories filed (19)
8-2-76		Before WEINSTEIN,J.- Case called Hearing resumed Hearing held and cont'd to 8-3-76
8-3-76		Affidavit with memo of law in opposition to motion for perliminary injunction filed in 75-C-208. ----

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CIVIL DOCKET CONTINUATION SHEET

PLAINTIFF	DEFENDANT	DOCKET NO. 76-C-1229
STATE OF NEW YORK [illegible]	KLEPPE	PAGE ___ OF ___ PAGES

DATE	NR.	PROCEEDINGS
8-3-76		Before WEINSTEIN,J.- Case called for hearing Hearing resumed and cont'd to 8-4-76
8-5-76		Pltff's memo of law filed. (20)
8-4-76		Before WEINSTEIN,J.- Case called for hearing Hearing resumed Deft motion to dismiss Decision reserved Hearing cont'd to 8-5-76
8-5-76		Before WEINSTEIN,J.- Case called for hearing Hearing resumed Hearing held and [illegible] cont'd to 8-6-76
8-6-76		Before WEINSTEIN.J.- Case called for hearing Hearing resumed Hearing held and cont'd to 8-11-76
8-10-76		Noia-intervenor-defts' post hearing memo of law in opposition to pltff;s motion for perliminary injunction filed. (21)
8-11-76		Deft NYGAS' trial memorandum in opposition to pltffs' motion for preliminary injunction filed in 75C 208. ---
8-11-76		Federal defts' supplemental memorandum in opposition to pltffs' motion for a preliminary injunction filed in 75C 208. ---
8-11-76		Post hearing memorandum of State of N.Y. in support of motion for preliminary injunction filed. (22)
8-11-76		Post hearing memo in support of temporary inj. filed. (23)
8-11-76		County of Nassau's memo in support of preliminary inj. (24)
8-11-76		Memo of Nassau in support of preliminary inj. filed in 75C 208. [illegible]
8-11-76		NOIA post hearing memo in opposition filed. ~~for 75C 208~~ (25)
8-11-76		Before WEINSTEIN,J-Case called. Motion argued. Decision reserved. Hearing held & concluded.
8-12-76		Sten transcript dtd. 8-11-76 filed in 75-C-208. ---
8-13-76		By WEINSTEIN,J.- Memo and order that a perlimanry injunction preventing sale 40 on 8-20- is granted pending the decision on applicationsfor a permanent injunction and Denying a perliminary injunction preventing all future OCS leasing and the parties shall move as rpomptly as possible to obtain a final resolution of the application for a permanent injunction filed. in 75-C-208. ~~(26)~~
8-13-76		Notice of appeal from National Ocean Industries filed. (26)
8-13-76		Notice of appeal for NY Gas Group filed. (27)
8-13-76		Notice of appeal for Dept. of Interior filed. (28)
8-16-76		Deft NYGAS ememo of law in opposition to pltff's motion for prelimiary inujnction filed on [illegible] 75-C-208 ---
8-20-76		Affidavit of Paul L. Hathaway filed. (29)
8-23-76		Copy of letter dtd 8-19-76 to J. Zedrosser from Clerk of Supreme Court fjiled with Justice Marshall's opinion attached. See 75C 208. mg

DC-111A (Rev. 1/75)

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DIST/OFFICE	DOCKET YR.	DOCKET NUMBER	FILING DATE MO.	DAY	YEAR	J	M		R	DEMAND	OTHER	JUDGE NUMBER	JURY DEM.	DOCKET
207	1	75	0208	02	10	75	2	895	1		INJUNCTION	0715		WEINSTEIN, J.

75 C 208

APPEAL

PLAINTIFFS

COUNTY OF SUFFOLK, ET AL.

COUNTY OF SUFFOLK, COUNTY OF NASSAU, TOWN OF ISLIP, TOWN OF HEMPSTEAD, TOWN OF NORTH HEMPSTEAD, TOWN OF OYSTER BAY, TOWN OF HUNTINGTON, and the BOARD OF TRUSTEES OF THE TOWN OF HUNTINGTON

-and-

CONCERNED CITIZENS OF MONTAUK, INC.

pltff-intervenor

DEFENDANTS

DEPT. OF THE INTERIOR, et al.

DEPARTMENT OF THE INTERIOR, ROGER C. B. MORTON, individually and as Secretary of the Interior, CURTIS J. BERKLUND, individually and as Director of the Bureau of Land Management.

CAUSE

42 USC 4321--NATIONAL ENVIRONMENTAL POLICY ACT--ACTION TO NULLIFY DECISION TO LEASE 10,000,000 ACRES OF OUTER CONTINENTAL SHELF LANDS FOR OIL AND GAS DRILLING. ADMINISTRATIVE PROCEDURE ACT--5 USC 704, 705, 706.

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FOR FEDERAL DEFENDANTS:
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596-3562

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UNITED STATES DISTRICT COURT DOCKET

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A 5

02-1[illegible]	Complaint filed. Summons issued.	(1)
	[illegible] rt and filed/executed.	(2)
[illegible]	Letter from Cyril Hyman dtd 5-11-75 filed.	(3)
[illegible]	WEINSTEIN, J. - Order dtd 4-11-75 granting extendion of time to answer complaint to 5-20-75, etc. filed on document #3.	---
5/16/75	Notice of Motion, ret. 6/6/75 filed re: that the complaint against the Dept of Interior be dismissed, etc.	(4)
5/23/75	By WEINSTEIN, J.- Order dated 5/27/75 filed that deft's motion to dismiss dated 5/15/75 and ret. 6/6/75 is adjd to Sept. 11, 1975, etc.	(5)
	[illegible] to 9-11-75.	
7-2-75	Notice of motion and motion to intervene as co-pltff under Rule 24 ret 8-5-75 at the Westbury Courthouse filed.	(6)
8-13-75	By WEINSTEIN, J.--Order dtd 8-13-75 that CONCERNED CITIZENS OF MONTAUK, INC. has leave to intervene in this action, etc. filed.	(7)
8-13-75	By WEINSTEIN, J.-Order dtd 8-14-75 that CONCERNED CITIZENS OF MONTAUK, INC. has leave to intervene in this cause etc filed.	(8)
8-26-75	By WEINSTEIN, J.--Order dtd 8-22-75 filed re: adjing hearing for 9-11 to 9-17-75. Counsel for Suffold County will notify the other pltffs & intervenors. (Copies mailed by chambers to Suffolk County atty, Mr. Herman, & Cyril Hyman)	(9)
9-17-75	Before WEINSTEIN, J.--Case called. Deft's motion to dusmiss adjd to 10-14-75.	
[illegible]	By WEINSTEIN, J. - Order dtd 9-17-75 adjourning motion to dismiss to 10-14-75 etc. filed.	(10)
[illegible]	[illegible] pursuant to Rule 9(g) of the General Rules of this Court filed.	(11)
[illegible]	Notice of Cross motion, ret. 10/14/75 filed re: for leave to file supplemental pleadings purs. to Rule 15-d	(12)
[illegible]	[illegible] of pltff's filed.	(13)
10-10-75	Reply memorandum of defts to pltffs' memorandum submitted in opposition to the Govt's motion to dismiss, etc filed.	(14)
[illegible]	[illegible] called. Deft's motion to dismiss etc. [illegible] So ordered the Dept of Interior's [illegible] to be amended So ordered pltff's [illegible] So ordered Govt's motion [illegible] So ordered [illegible]	
	[illegible] filed	(15)
10-21-75	Letter dtd 10-20-75 to J. Weinstein from Irving Like filed. (mg)	(16)
11-20-75	Stenographer's transcript dtd 10-14-75 filed.	(17)
12-9-75	ANSWER of Federal Defts filed. (mg)	(19)
[illegible]	Notice of motion to circulate program decision option document ret 1-15-76 filed with pltffs' memorandum in support.	
[illegible]	Affidavit of Royston C. Hughes in reply to pltffs' motion for stay of hearing filed.	(20/21) (22)
1-1-76	Deft's memo of law filed.	(23)

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75C 208

CIVIL DOCKET CONTINUATION SHEET

PLAINTIFF	DEFENDANT	DOCKET NO. 75C-208
COUNTY OF SUFFOLK	DEPT. OF THE INTERIOR	PAGE ___ OF ___ PAGES

DATE	NR.	PROCEEDINGS
1-21-76		Reply memorandum of pltff on motion for order to circulate program decision option document filed. (mp) (24)
1-21-76		Letter dtd 1-16-76 to J. Weinstein from Irving Like filed. (25)
1-21-76		Letter dtd 1-19-76 to J. Weinstein from Irving Like filed. (26)
1-22-76		Reply memorandum of pltff Concerned Citizens of Montauk filed. (27)
1-22-76		Memorandum of the American Petroleum Institute as Amicus Curiae filed. (mp) (28)
1-22-76		Before WEINSTEIN,J.-Case called. Pltff's motion to circulate program decision option documents argued - motion denied. Hearing ordered & begun. Hearing concluded. Motionto stay public hearings - denied. Order of Court read into record. ---
1-25-76		Reply memorandum of pltff County of Nassau on motion for order to circulate program decision option document filed. (29)
1-26-76		Copy of letter dtd 1-22-76 to Hon. Thomas E. Kauper from Cyril Hyman filed. (mp) (30)
1-29-76		Certificate of mailing filed. (mp) (31)
2-11-76		Pltffs' interrogatories & request to produce filed. (32)
2-11-76		Pltff. interr. and request to produce filed. (33)
3-12-76		By WEINSTEIN,J.- Order dtd. 3-9-76 extending time to answer Interrog. to 4-9-76 filed. (34)
3-12-76		Sten. transcript dtd. 1-22-76 filed. (35)
5-7-76		Defendants' Responses to Plaintiffs' Interrogatories filed with Attachments to Defts' Responses to Pltffs Interrog. Vol I-VI annexed. (36)
6-23-76		Notice to take deposition of the defts filed. (37)
6-24-76		Notice to take deposition of defts etc., filed. (38)
6-24-76		Notice to take depositions of defts etc., filed. (39)
6-24-76		Notice re request for documents filed. (40)
6-25-76		Notice of motion ret. 7-6-76 re: to compel defts to answer interroga. filed. (41)
6-25-76		Defts objection to notice to take depositions filed. (42)
6-25-76		Deft objections to notice to produce etc., filed. (43)
6-28-76		Notice of motion to vacate the notice to take the deposition of Thomas Kleppe ret 6-30-76 SIGNED BY WEINSTEIN,J. (44)
6-30-76		Affirmation of I. Like filed. (45)
6-30-76		Suffolk County's brief in opposition to motion to vacate notices to take depositions filed. (46)
6-30-76		Before WEINSTEIN,J.- Case called for motion to vacate notice to take deposition of Sec of Interior Motion argued & granted and denied in part Case adjd to 8-2-76 at Judge's home for conf 76-C-1229 is consolidated with 75-C-200 for discovery & trial purposes only
7-2-76.		Stenographer's transcript dtd 6-30-76 filed. (47) cp
7-19-76		Affidavit of J. Kaufman with memo of law in opposition to motion to intervene filed. (48/49)
8-12-76		Sten transcript dtd. 8-11-76 filed. (50)

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CIVIL DOCKET CONTINUATION SHEET

PLAINTIFF	DEFENDANT	DOCKET NO.
		PAGE ___ OF ___ PAGES

DATE	NR.	PROCEEDINGS
[illegible]-76		Before WEINSTEIN,J.-Case called. 76C 1220 & 75 209 are consolidated for the purpose of this hearing. Application to intervene of National Ocean Industries Assoc; National Supply Co' Continental Inc. Dresser Industries, Inc.; Houston Oil & Minerals Corp; Levingston Shipbuilding Co; Murphy Oil Corp; Ocean Prod. Co is granted. Application to intervene of N.W. Gas Group is granted. Application of Associated Gas Dist to participate as amicus is granted. Case set for hearing on 7-23-76 in Brooklyn,
7-21-76		Notice to take deposition of the defts filed. (50)
7-21-76		Motion for leave to participate as amicus curiae filed. (51)
7-21-76		Motion to intervene as defts pursuant to rule 24 filed. (52)(53)(54)
7-21-76		Application for intervention memorandum re proposed procedures filed.
7-23-76		Affidavit of Irving Like filed. (55) (56)
7-23-76		Before WEINSTEIN,J.- Case called for motion enjoining deft etc., Hearing ordered and begun Hearing cont'd to 7-26-76
7-27-76		Before WEINSTEIN,J.- Case called for hearing Trial resumed and Trial cont'd to 7-28-76
7/28/76		Before WEINSTEIN,J.- case called- trial resumed-trail contd to 7/29/76
7/29/76		Before WEINSTEIN,J.- case called- hearing resumed-trail contd to 7/30/76
7/30/76		Before WEINSTEIN,J.- case called- trial resumed- trial contd to 8/2/76
8/2/76		Memorandum of intervenor-defts filed (57)
8/2/76		Federal defts supplemental memorandum filed (58)
8/2/76		Affidavit of F. Peter O'Hara filed (59)
8/2/76		Deft Moss' memorandum of law in opposition to motion for preliminary injunction filed (60)
8-2-76		Before WEINSTEIN,J.- Case called Hearing resumed Hearing held and cont'd to 8-3-76
8-3-76		Affidavit in opposition with memo of law to motion for perlimiary injuction filed. (61/62)
8-4-76		Deposition tran. of Robert Marak filed. (63)
8-3-76		Before WEINSTEIN,J.- Case called for hearing Hearing resumed and cont'd to 8-4-76
8-4-76		Before WEINSTEIN,J.- Case called Hearing resumed Deft motion to dism Decisoon reserved Hearing cont'd to 8-5-76
8-5-76		Before WEINSTEIN,J.- Case called for Hearing Hearing resumed Hearing held and cont'd to 8-6-76
8-6-76		Before WEINSTEIN,J.- Case called for hearing Hearing resumed Hearing held and cont'd to 8-11-76
8-10-76		Noia intervenor-defts' post hearing memo of law in opposition to pltff's motion for perliminary injunction filed. (64)
8-11-76		Memo of County of Suffolk in support of motion for preliminary inj filed. (65)
8-11-76		Deft MOSS' trial memo in opposition to prelim. inj. filed. (66)
8-11-76		Federal defts' supplemental memo in opposition to pltffs motion for preliminary inj filed.
8-11-76		Before WEINSTEIN,J-Case called. Motion argued. Decision reserved. (67) Hearing held & concluded.

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CIVIL DOCKET CONTINUATION SHEET

PLAINTIFF	DEFENDANT	DOCKET NO. 75-C-208
COUNTY OF SUFFOLK	DEPT OF THE INTERIOR	PAGE ___ OF ___ PAGES

DATE	NR.	PROCEEDINGS
8-13-76		By WEINSTEIN,J.- Memo and order dtd. 8-13-76 that a perliminary injunction preventing sale 40 on 8-20-76 is granted penbding the decision on applications for a permanent injunction Denying a perliminary injunction preventing all future OCS leasing and the parties shall move as promptly as possible to obtain a final resolution of the application for a permanent injunction filed. (68)
8-13-76		Notice of appeal filed for National Ocean Industries (69)
8-13-76		Notice of appeal for NY Gas Group filed. (70)
8-13-76		Notice of appeal for Dept. of Interior filed. Copies mailed to all parties and to C of A. (71)
8-16-76		Deft NYGAS memo of law in opposition to pltff's morion for perliminary injunction filed. (72)
8-23-76		Copy of letter dtd 8-19-76 to J. Zedrosser from Clerk of the Supreme Court filed with copy of Justice Marshall's opinion attached. (73)

DC-111A (Rev. 1/75)

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8-23-76		Copy of letter dtd 8-19-76 to J. Zedrosser from Clerk of the Supreme Court filed with copy of Justice Marshall's opinion attached. (73)
8-23-76		$250.00 deposited in Registry of Court by NYGAS Group in lieu of bond on appeal. ---
8-24-76		Bond for costs on appeal filed by National Ocean Ind. Assoc. (74)
8-24-76		Sten. transcript dtd 7-23-76; 7-26-76; 7-28-76; 7-29-76; 7-30-76; 8-2-76; 8-3-76; 8-4-76; 8-5-76; 8-6-76; 8-11-76; (75 to 85)
8-24-76		Unsigned stip re adjourning defts' motion to dismiss filed. (86)
8-24-76		Pltff-intervenor Conserned Citizens opposition to defts motion to dismiss filed. (87)
8-24-76		Affidavit of William P. Dudine Jr. filed. (88)
8-24-76		Memorandum in support of defts' motion to dismiss and partial summary judgment etc filed. (89)
8-24-76		Memorandum of Law in opposition to defts' motion to vacate pltffs' notices to take depositions filed. (90)
8-24-76		Notice of motion for leave to file supplemental pleading filed. (91)
8-24-76		Concerned Citizens of Montauk in opposition to defts' motion for protective order filed. (92)
8-24-76		Deposition transcripts of FRANK BASILE filed. . . . (93 to 96)
8-24-76		Deposition transcript of Kent Frizzell filed. (2) (97/98)
8-25-76		Sten transcript dtd. 7-20-76 filed. (99)
8-25-76		Deposition transcripts of Russel Peterson, R. Hughes and ~~R. Hughes cont'd~~ filed. (100-101) ~~(100-101)~~
8-25-76		Deposition trans. of R. Hughes filed. (102)
8-25-76		Memorandum of Amicus Curiae in opposition to motion for preliminary injunction filed. (103

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK
- -x

COUNTY OF SUFFOLK, et al.,

Plaintiffs,

75 C 208

- against -

SECRETARY OF THE INTERIOR, et al.,

Defendants,

NATIONAL OCEAN INDUSTRIES ASSOCIATION, et al.,

Intervenor-Defendants.
- -x

THE STATE OF NEW YORK and THE NATURAL RESOURCES DEFENSE COUNCIL, INC.,

Plaintiffs,

76 C 1229

- against -

THOMAS S. KLEPPE, Secretary of the Interior,

Defendant.
- -x

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LAWRENCE HOFSE and JACK HUGHES,
Department of Interior

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WEINSTEIN, District Judge

This litigation is of substantial importance to the parties and to millions of people living in this region whose environment and livelihood may be affected. It has substantial economic, social, environmental and political impacts.

On August 17th of this year there is scheduled the first leasing of federal lands in the outer continental shelf (OCS) of the Atlantic Coast for purposes of oil and gas production. Lessees will be permitted to explore and, after approval of details of their plans, produce any oil or gas they find.

Involved is a portion of the Baltimore Canyon Trough referred to as the Mid Atlantic Region in this proceeding. The 154 tracts proposed to be leased (Sale No. 40.) comprise an area of 876,750 acres, 50 to 90 miles east of Atlantic City, New Jersey in water 131 to 607 feet deep. It is estimated that these tracts contain 0.4 to 1.4 billion barrels of recoverable oil and 2.6 to 9.4 trillion cubic feet of available natural gas. Final Environmental Impact

Statement (EIS), OCS Sale 40, Vol. 1, p. 3. At present prices the oil is worth 5 to 17 billion dollars and the gas 4 to 14 billion dollars. The government expects to receive 400 to 600 million dollars for the leases.

Surrounding areas of the Baltimore Canyon as well as substantial portions of the Georges Bank Basin lying east of Boston, Massachusetts, and of the Southeast Georgia Embankment and Blake Plateau Trough south and east of Charleston, South Carolina, are planned to be leased during the next few years. While predictions before any discoveries are hazardous, recent estimates of the United States Geological Survey at 75 and 25 percent probability levels for recoverable oil and gas of the entire offshore Atlantic are 2 to 4 billion barrels of oil and 5 to 14 trillion cubic feet of natural gas. Library of Congress, Effect of Offshore Oil and Natural Gas Development in the Coastal Zone for Ad Hoc Select Committee on Outer Continental Shelf, House of Representatives, 94th Cong., 2d Sess. 32-33 (1976).

These probable deposits should be evaluated in the light of our large consumption of hydrocarbons. Actual

petroleum consumed per year is over 4 billion barrels and projections to the year 2000 range to 12 billion barrels a year. Report to the President by the Council on Environmental Quality 33 (1974). Similar figures for natural gas indicate that without severe limitations on energy use, we are talking of hydrocarbon energy supplies from the Atlantic OCS equal to United States demand in the order of months or a few years. Nevertheless, as supplements to other resources, the Atlantic OCS reserves have substantial value in reducing projected oil and gas energy deficits. This is particularly true for natural gas since imports in the form of liquified gas are just beginning and there is a lack of available gas at current prices from other parts of the country. Price modifications by the Federal Power Commission may temporarily alleviate the gas shortage by encouraging new drilling and by diverting natural gas sold in unregulated intrastate commerce and used for low priority purposes.

The growing dependence in the Northeast region on imported oil from abroad, now at the rate of some 85% of consumption, and the shortages in natural gas are well known. While oil has been available at substantial prices, when foreign sources would sell it, there is a growing

A 16

shortage of natural gas which has resulted in cutting off of supplies for industrial uses and which even threatens imminent cut-off of cooking and heating fuel in homes. The cost and lack of availability of energy will, unless it is rectified, further disadvantage this region's relative ability to generate jobs, leading to further economic and social declines.

There is no doubt of the technical capacity to establish drilling platforms, undersea pipelines and shore based facilities adequate to fully exploit these resources in the OCS over the next twenty-five years. Testimony and exhibits describing production in the North Sea, Gulf of Mexico and other areas demonstrated this capability as the most clearly established fact in the case.

The environmental implications of production of off-shore oil are substantial. For example, the Northeast Atlantic fisheries, under effective management, can produce about 1 billion dollars worth of food and other products each year; oil spills and other pollution associated with drilling may affect the spawning and life cycles of the prevalent species. Beautiful swimming and boating areas

used by millions of people may be impacted by oil spills. Recent closing of beaches on Long Island because of pollution has sharply reinforced our appreciation of the costs in millions of dollars and loss of pleasure that such pollution may entail. Scarce wetlands and other land may be required for the oil pipelines and other needs associated with production of petroleum and attendant refinery and petrochemical industries.

International implications of our energy dependence are substantial. Reliance on oil imports has now grown to where it accounts for 50 percent of United States consumption as against 20 percent in 1967. In 1973, when the President set national goals of prompt energy independence, the cost of imported oil was 3 billion dollars a year, while it is now approximately 27 billion. Petroleum consumption has continued to rise and domestic production to fall. Program Decision Option Document (PDOD) Sale No. 40, p. 2.

Issues involving local and state governments are also complex. Off-shore development will have substantial on-shore impacts. Planning for land use and provision for meeting the needs of people who will be moving to new job

sites is a responsibility primarily of the states and local governments, most of which have just begun to consider the implications of these new developments. Cooperation among federal, state and industry groups is essential. For example, as indicated below, since the states can prevent construction on land and in the three-mile area extending out to sea, the use of pipelines can be blocked or their location controlled, raising serious questions with respect to increased possibilities of pollution through tanker accidents.

There is, too, the issue of the wisdom of commitment to rapid exploitation of off-shore oil resources while Congress is debating energy and conservation policies. New policies may require saving these non-renewable hydrocarbon resources for future generations.

The court's role in the difficult decision-making process to lease or not lease now is a limited one. It may intervene, if requested by parties in interest, only to determine whether the proposed action of the Secretary of the Interior (Secretary) violates federal law, not whether it is wise.

I. Facts

A. History of the Litigations.

The New York State counties of Suffolk and Nassau, which compose the central and eastern portions of Long Island, and the Long Island towns of Islip, Hempstead, North Hempstead, Oyster Bay and Huntington filed a complaint in February, 1975 (75 C 208), seeking to enjoin the Secretary from proceeding with any OCS accelerated leasing program until the completion and circulation for comment of an EIS prepared pursuant to § 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C.§§ 4321 et seq. After a hearing the court denied an application for a preliminary injunction with prejudice on the ground that the relief sought was premature.

Throughout this period, the Department of the Interior was preparing a Draft EIS on the proposed OCS Lease Sale No. 40 now at issue. Hearings on the Draft EIS for Sale No. 40 were held in Atlantic City, New Jersey in January of this year.

Plaintiffs sought an order delaying these January hearings and directing that the PDOD for Sale No. 40,

Mid-Atlantic OCS be made public and circulated for comment. In 20 pages with short appendices the PDOD summarizes the various options open to the Secretary such as to lease or not lease, or to lease for exploration only or for exploration and production. It capsulates economic, social and environmental data including that in the four-volume EIS. This court refused to delay the public hearings. It directed the defendant to make the PDOD available to interested parties and to set aside an extra day of hearings for testimony on the PDOD. The Final EIS on Sale No. 40 was filed on May 26, 1976. It was modified from the Draft EIS to incorporate and reflect objections and suggestions made at the January hearings and in supplementary correspondence.

On June 29, 1976, another suit was started (76 C 1229). The State of New York and the Natural Resources Defense Council, Inc. (NRDC) filed a complaint against the Secretary seeking injunctive relief against Sale No. 40 and against the national OCS accelerated leasing program. It alleged that the Secretary had failed to comply with NEPA and various other statutes. At a preliminary hearing in this court on June 30, the government announced the intention to hold Sale No. 40 on August 17. Shortly thereafter the Secretary of the

Interior formally announced that Lease Sale No. 40 would proceed on August 17, 1976. Motions for preliminary injunctions were then ripe.

The two actions were consolidated for purposes of discovery and hearings on the motions for a preliminary injunction. Discovery was expedited and the case was set for hearings on the earliest possible date the parties could be ready. Subsequently, the Concerned Citizens of Montauk, Inc. intervened as a plaintiff and the National Ocean Industries Association, together with 11 of its members, and the New York Gas Group intervened as defendants.

Evidentiary hearings have consumed three weeks. Many distinguished experts have testified for both sides, most apparently at their own expense and on precious vacation time because of their deep commitment to one side or the other. The court was impressed with the bona fides and reliability of all the witnesses. The attorneys, in a highly professional way, worked days, nights and weekends to speed the trial. Because of the need for a prompt decision, this memorandum is being issued in draft form a few days after the close of hearings for whatever assistance it may give

the litigants and appellate courts.

B. History of the Mid-Atlantic Lease Sale

1. Programmatic Decision

Two aspects of the federal OCS planning effort are involved in this litigation. One is the programmatic decision to accelerate OCS leasing nationwide -- i.e., off the coasts of the lower Pacific, Alaska, Atlantic and Gulf of Mexico. The other is the specific decision to hold Lease Sale No. 40 for the Mid-Atlantic OCS.

Some years ago President Nixon announced a policy of accelerated leasing to assist in the national effort to attain early energy self-sufficiency. In January of 1974 he directed the Department of the Interior to call for the rapid leasing of OCS lands for mining of oil and natural gas. In accordance with this directive, Interior announced in May of 1974 that it was commencing preparation of a Draft EIS on acceleration of OCS leasing. It called for the leasing of 10 million OCS acres in 1975.

A programmatic Draft EIS was prepared and made available for public comment in October, 1974.
The Department of Interior sponsored a Coastal States

Governors Conference in November, in Washington, D.C. to discuss the program. At this conference, President Ford, Treasury Secretary Simon, then Secretary of Interior Morton, and Federal Energy Administrator Zarb addressed the governors on the federal government's rationale and plan for acceleration. Both President Ford and then Secretary Morton advise' the governors that they were reconsidering the size of the 10 million acre goal. In November, 1974, Secretary Morton wrote to Senator Bible advising him that the 10 million goal had been abandoned. He noted that a modified proposal of six sales a year over the next few years was being considered.

Public hearings on the OCS Programmatic Draft EIS were held at three sites around the nation, including Trenton, New Jersey, in February, 1975. (It was at this time that the Suffolk-Nassau suit was brought.) Thereafter, Interior revised the Draft Programmatic EIS and in July, 1975, published the final programmatic EIS. A sixty-day period for public review and comment followed publication of the final EIS.

During this period, staff members in Interior prepared a Programmatic PDOD for the proposed national accelerated OCS leasing program. It describes options open to the Secretary and alternatives to the proposed action in the context of broadly stated economic, social and environmental problems of the proposal. The PDOD was submitted to the Acting Secretary for his consideration in conjunction with the three-volume Final Programmatic EIS on September 26, 1975. Three days later, on September 29, 1975, Acting Secretary Kent Frizzel announced his decision to adopt the national Accelerated OCS oil and gas leasing program which involved leasing from all portions of our OCS believed to contain hydrocarbons.

2. Sale No. 40 Decision.

One of the areas to be leased under the accelerated program is the Baltimore Canyon Trough, located in the Mid-Atlantic Ocean off the coasts of New York, New Jersey, Delaware, Maryland and Virginia. As already noted, the leasing of this area has been designated Mid-Atlantic Sale No. 40. The Bureau of Land Management (BLM) began collecting resource reports on the Baltimore Canyon Trough in 1974 and in March, 1975, a call for nominations was issued. Through

the call the oil and gas industry designated those tracts within the Trough which they wanted to have offered for lease. At the same time, other interested parties, including state governments, designated tracts to be withheld from leasing for environmental and other reasons. After an examination of the hydrocarbon potential and the hazards associated with various tracts, the Secretary announced the tentative tract selections in August, 1975. The Secretary chose 876,750 acres of the 6.5 million acres in the Baltimore Canyon Trough originally delineated by the BLM for Sale No. 40.

As already indicated, a Draft EIS for Sale No. 40 was prepared, public hearings were held and a four-volume final EIS was released to the public in May, 1976. A PDOD was also prepared by Interior Department staff for lease Sale No. 40 in order to assist the Secretary in reaching his decision. The PDOD and the Final Sale 40 EIS were made available to the Secretary in June, 1976. Thereafter the Secretary formally announced that Sale No. 40 would occur on August 17, 1976.

3. Environmental Studies Program

In addition to the preparation of the programmatic and specific EIS's for various regions in the Atlantic, Gulf of Mexico and Pacific, BLM is engaged in developing a multi-year study plan for the Mid-Atlantic OCS area. The purpose of this studies program is to acquire information about the OCS environment to assist Interior in making decisions regarding development of mineral resources in the OCS and also to identify the impacts on the geologic and marine environments over time. It is intended to use this information to regulate OCS development and production through OCS operating orders, modification of lease stipulations and various other procedural controls on the lessee's development activities.

One aspect of this studies program is the collection of benchmark data against which any environmental changes due to development and production may be measured. The Virginia Institute of Marine Sciences was awarded a contract by BLM in June, 1975, to begin collecting benchmark data for the Mid-Atlantic including the delineation of natural aquatic communities and the establishing of current ambient levels of hydrocarbons, selected trace metals, organisms and particulates. This initial phase is expected to be completed by

late 1976. In addition, Interior's Geological Survey is conducting baseline studies for the purpose of describing geologic properties of the Mid-Atlantic and establishing chemical benchmark data for sedimenting.

Another aspect of these studies is the monitoring of environmental changes and, specifically, the monitoring of environmental effects of the exploratory drilling to be conducted in leased tracts. The exploration phase of oil and gas development in the Mid-Atlantic is anticipated to take from two to seven years and the production phase up to twenty-five years. Interior expects to complete the initial phase of the baseline studies prior to any production or development in the area and to have acquired further knowledge of potential environmental impacts as a result of the exploratory phase environmental monitoring.

There was substantial testimony from experts testifying on behalf of plaintiffs that important studies related to the benchmark data should be undertaken before the decision to lease is made. It was the opinion of witnesses for plaintiffs that a much more comprehensive evaluation of possible biological hazards based upon available data not sufficiently relied upon in the EIS statement and upon new

data could be completed within one to two years. Witnesses for the defendants took the position that there was more than sufficient data available in the EIS to make a reliable prediction that negative impact on the biota and environment generally would be negligible and transient.

On the basis of the evidence adduced, the court cannot find that the Secretary's apparent decision to take the latter position was unreasonable. In view of the enormous range in probabilities, an administrator such as the Secretary might well have concluded that the gross data available sufficiently apprised him of the overall dangers, so that further refinements were not worth the delays required to make them.

There is one major area, however, where the Secretary's decision was based on insufficient analysis of environmental dangers. The impact of possible state decisions affecting such matters as whether pipelines or tankers will need to be used and where on-shore facilities can be located is inadequately covered. This factor could affect the probability of environmental damage by many orders of magnitude and should not have been virtually ignored. It is discussed below, particularly in Section II E.

II. Law

A. Statutes claimed to be violated

There are a series of federal statutes which may be implicated in any action with as far-reaching consequences as the one now proposed. The significance of most of them is peripheral. Among the laws in the Suffolk-Nassau complaint claimed to have been violated are: the National Environmental Policy Act, 42 U.S.C. §§ 4321 et seq. (N.E.P.A.); the Coastal Zone Management Act, 16 U.S.C. §§ 1451 et seq. (CZMA or Management Act); the Administrative Procedure Act, 5 U.S.C. §§ 704, 705, 706; the Outer Continental Shelf Lands Act, 43 U.S.C. §§ 1331 et seq.; the laws dealing with state ownership of land 3 miles seaward, 43 U.S.C. §§ 1301-1303, 1311 et seq.; laws regulating the administration of public lands, 43 U.S.C. §§ 1361 et seq.; laws regulating the administration of fish, shellfish and wildlife resources, 16 U.S.C. §§ 742a et seq.; laws regulating protection and conservation of wildlife, 16 U.S.C. §§ 661 et seq.; laws protecting migratory game and birds, 16 U.S.C. §§ 701 et seq.; laws dealing with fish restoration and management projects, 160 U.S.C. § 777; the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq.; laws dealing with land and water conservation funds, 16 U.S.C. §§ 460e-5 et seq.; Anadromous

Fish Conservation Act, 16 U.S.C. §§ 757a et seq.; Migratory Bird Treaty Act, 16 U.S.C. §§ 703 et seq.; Historic Sites Act, 16 U.S.C. §§ 1531 et seq.; Marine Mammal Protection Act, 16 U.S.C. §§ 1361 et seq.; Intergovernmental Cooperation Act, 42 U.S.C. §§ 4201 et seq.; fair market requirements for sale and leases, 31 U.S.C. § 483a; Energy Supply and Environmental Act, 15 U.S.C. §§ 791 et seq.; the Energy Policy and Conservation Act, 42 U.S.C. §§ 6201 et seq.; and Executive Order No. 11912 (1976); and various manuals, guidelines and orders dealing with the preparation of environmental statements and related activities such as Executive Order 11514, Fed. Reg. 4247, 1970; Council on Environmental Quality, Aug. 1, 1973; Department of Interior Manual 516, Sept. 2, 1971, and BLM Manual 1972.

While all these statutes are implicated, an analysis of only three is required: the Outer Continental Shelf Lands Act, authorizing the leasing of off-shore tracts for mining; NEPA, requiring studies and consideration of possible environmental consequences of the decision to lease; and the Coastal Zone Management Act. The last of the three requires special consideration because important amendments were adopted on July 26, 1976, Pub. L. 94-370, while this court was conducting

hearings; the issues it raises are of first impression.

The evidentiary hearings in this court have shown no reason to believe that the Secretary has failed to adequately consider such matters as protection of antiquities in the sea, migratory birds, fish and other wildlife, and water and air pollution problems. All are treated in great detail in the Sale 40 EIS and the EIS conclusions that no substantial problem exists was rational. Any special problems that arise, for example, with respect to the discovery of submerged Indian artifacts can be handled by special orders to the lessees. The procedures for public bids are adequate to insure that fair market value will be obtained. See Final EIS OCS Sale No. 40, Vol. III, p. 70. The fact that greater sums might be received were the government to explore before leasing for production or that a more competitive oil industry might produce higher bids is not decisive. Given the present state of the industry, technology and capital availability, the Secretary could reasonably conclude that there are sufficient interested bidders ready, willing and able to seek leases to insure a competitive market situation.

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B. Outer Continental Shelf Lands Act

The Secretary is granted broad authority to lease and control lands for gas and oil exploitation and for pipeline transportation on the OCS, making such rules as he determines to be necessary and proper. The basic provisions read as follows:

43 U.S.C. §1334.

Administration of leasing—Rules and regulations; amendment; cooperation with State agencies; violations and penalties; compliance with regulations as condition of lease

(a) (1) The Secretary shall administer the provisions of this subchapter relating to the leasing of the outer Continental Shelf, and shall prescribe such rules and regulations as may be necessary to carry out such provisions. The Secretary may at any time prescribe and amend such rules and regulations as he determines to be necessary and proper in order to provide for the prevention of waste and conservation of the natural resources of the outer Continental Shelf, and the protection of correlative rights therein, and, notwithstanding any other provisions herein, such rules and regulations shall apply to all operations conducted under a lease issued or maintained under the provisions of this subchapter. In the enforcement of conservation laws, rules, and regulations the Secretary is authorized to cooperate with the conservation agencies of the adjacent States. Without limiting the generality of the foregoing provisions of this section, the rules and regulations prescribed by the Secretary thereunder may provide for the assignment or relinquishment of leases, for the sale of royalty oil and gas accruing or reserved to the United States at not less than market value, and, in the interest of conservation, for unitization, pooling, drilling agreements, suspension of operations or production, reduction of rentals or royalties, compensatory royalty agreements, subsurface storage of oil or gas in any of said submerged lands, and drilling or other easements necessary for operations or production.

* * *

Pipeline rights-of-way; forfeiture of grant

(c) Rights-of-way through the submerged lands of the outer Continental Shelf, whether or not such lands are included in a lease maintained or issued pursuant to this subchapter, may be granted by the Secretary for pipeline purposes for the transportation of oil, natural gas, sulphur, or other mineral under such regulations and upon such conditions as to the application therefor and the survey, location and width thereof as may be prescribed by the Secretary, and upon the express condition that such oil or gas pipelines shall transport or purchase without discrimination, oil or natural gas produced from said submerged lands in the vicinity of the pipeline in such proportionate amounts as the Federal Power Commission, in the case of gas, and the Interstate Commerce Commission, in the case of oil, may, after a full hearing with due notice thereof to the interested parties, determine to be reasonable, taking into account, among other things, conservation and the prevention of waste. Failure to comply with the provisions of this section or the regulations and conditions prescribed thereunder shall be ground for forfeiture of the grant in an appropriate judicial proceeding instituted by the United States in any United States district court having jurisdiction under the provisions of section 1333(b) of this title.

Environmental considerations must be taken into account in exercising his powers to lease and suspend leases. Gulf Oil Corporation v. Morton, 493 F.2d 141, 145 (9th Cir. 1973).

The district courts are granted jurisdiction to consider controversies arising from operations on the OCS. 43 U.S.C. §§ 1331(b), 1334(b)(2), 1337(j); Union Oil Company of California v. Morton, 512 F.2d 743 (9th Cir. 1974).

Congress explicitly stated in the act its understanding that there was "urgent need for further exploration and development of the oil and gas deposits" of the OCS and granted power with detailed limitations on the terms of leases:

43 U.S.C. § 1337.

Grant of leases by Secretary—Oil and gas leases; award to highest bidder; method of bidding

(a) In order to meet the urgent need for further exploration and development of the oil and gas deposits of the submerged lands of the outer Continental Shelf, the Secretary is authorized to grant to the highest responsible qualified bidder by competitive bidding under regulations promulgated in advance, oil and gas leases on submerged lands of the outer Continental Shelf which are not covered by leases meeting the requirements of section 1335(a) of this title. The bidding shall be (1) by sealed bids, and (2) at the discretion of the Secretary, on the basis of a cash bonus with a royalty fixed by the Secretary at not less than 12½ per centum in amount or value of the production saved, removed or sold, or on the basis of royalty, but at not less than the per centum above mentioned, with a cash bonus fixed by the Secretary.

Terms and provisions of oil and gas leases

(b) An oil and gas lease issued by the Secretary pursuant to this section shall (1) cover a compact area not exceeding five thousand seven hundred and sixty acres, as the Secretary may determine, (2) be for a period of five years and as long thereafter as oil or gas may be produced from the area in paying quantities, or drilling or well reworking operations as approved by the Secretary are conducted thereon, (3) require the payment of a royalty of not less than 12½ per centum, in the amount or value of the production saved, removed, or sold from the lease, and (4) contain such rental provisions and such other terms and provisions as the Secretary may prescribe at the time of offering the area for lease.

* * *

Publication of notices of sale and terms of bidding

(f) Notice of sale of leases, and the terms of bidding, authorized by this section shall be published at least thirty days before the date of sale in accordance with rules and regulations promulgated by the Secretary.

Disposition of revenues

(g) All moneys paid to the Secretary for or under leases granted pursuant to this section shall be deposited in the Treasury in accordance with section 1338 of this title.

Issuance of lease as non-prejudicial to ultimate settlement or adjudication of controversies

(h) The issuance of any lease by the Secretary pursuant to this subchapter, or the making of any interim arrangements by the Secretary pursuant to section 1336 of this title shall not prejudice the ultimate settlement or adjudication of the question as to whether or not the area involved is in the outer Continental Shelf.

Cancellation of leases for fraud

(i) The Secretary may cancel any lease obtained by fraud or misrepresentation.

* * *

Once granted, the Secretary's powers to revoke a lease are limited, although temporary suspensions to take steps necessary to protect the environment or for violation of the law or lease are permitted. 43 U.S.C. § 1334(b)(1); Union Oil Company of California v. Morton, 512 F.2d 743 (9th Cir. 1975).

Challenges to the proposed Sale No. 40 leasings have not demonstrated that the Secretary failed to follow the requirements of the Outer Continental Shelf Lands Act. The proposed form of lease and restrictions attached to it were obviously designed to protect the environment while expediting development of the OCS in accordance with the Congressional mandate.

C. National Environmental Policy Act

Congress has laid down a broad policy requiring consideration of environmental factors before a significant action such as leasing through Sale No. 40 is undertaken. See, e.g., Chelsea Neighborhood Associations v. United States Post.Serv., 516 F.2d 378 (2d Cir. 1975). The policy is stated as follows:

42 U.S.C. § 4321.

Congressional declaration of purpose

The purposes of this chapter are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

It is expanded upon in the following declarations:

§ 4331. Congressional declaration of national environmental policy

(a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this chapter, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

General guidelines have been set by statute on the nature of the studies required and they, in turn, have been expanded with the assistance of the Council on Environmental Quality. The basic provision reads:

42 U.S.C. § 4332.

Cooperation of agencies; reports; availability of information; recommendations; international and national coordination of efforts

The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this chapter, and (2) all agencies of the Federal Government shall—

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by subchapter II of this chapter, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—

(i) the environmental impact of the proposed action,

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) alternatives to the proposed action,

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

> Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of Title 5, and shall accompany the proposal through the existing agency review processes;
>
> (D) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;
>
> (E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;
>
> (F) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;
>
> (G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and
>
> (H) assist the Council on Environmental Quality established by subchapter II of this chapter.

The minimum form of an EIS has been summarized by the Second Circuit in Chelsea Neighborhood Ass'ns. v. United States Post. Serv., 516 F.2d 378, 386 (2d Cir. 1975):

> "The adequacy of an EIS can only be considered in light of its purpose. 'The primary purpose of the impact statement is to compel federal agencies to give serious weight to environmental factors in making discretionary choices.' Monroe County Conservation Council, Inc. v. Volpe, 472 F.2d 693 (2d Cir. 1972).

> NEPA, in effect, requires a broadly defined cost-benefit analysis of major federal activities. It seeks to insure that more than economic costs alone are considered. 'Environmental amenities' will often be in conflict with 'economic and technical considerations.' To 'consider' the former 'along with' the latter must involve a balancing process. In some instances environmental costs may outweigh economic and technical benefits and in other instances they may not. But NEPA mandates a rather finely tuned and 'systematic' balancing analysis in each instance. Calvert Cliffs', supra, 449 F.2d at 1113. NEPA is, 'at the very least, "an environmental full disclosure law." ' Monroe County, supra, 472 F.2d at 697."

There is little point in a detailed review of the evidence taken at the hearings in this court. There were hundreds of thousands of pages of exhibits, many volumes of draft and final EISs, and the thousands of pages of testimony from distinguished scientists, economists, administrators and others respecting the adequacy of the EISs. No doubt the EISs have been improved by more sophisticated detailed treatment of particular aspects of the many problems considered and by the use of clearer analysis, summaries and organization. No doubt a reasonable Secretary might well have concluded not to lease now for production, but to

conduct further studies, and explorations before permitting exploitation. No doubt many would applaud adoption of sensible alternatives such as inducing the exercise of restraint in our profligate use of energy, while holding these precious OCS non-renewable fossil fuel resources for coming generations when energy may be in even shorter supply than at present.

But, on balance, the impartial reader of the EISs is driven to the conclusion that, within the limit of reasonable researchers and writers, a studied effort was made to present a fairly grim picture of possible environmental difficulties. If anything, the studies are almost too detailed and encyclopedic for a lay executive to fully comprehend. The Final EIS Sale No. 40, together with the PDOD prepared by staff to summarize and clarify the issue for decision, satisfactorily meet both the spirit and the letter of NEPA requirements in all respects except one, addressed below.

The EIS with its preliminaries, hearings and conferences engaged the attention of a substantial portion of the relevant scientific community. The state and local political entities most affected were advised of the plans, their implications, and their dangers. Environmental and other

groups, as well as the press, were given ample opportunity to alert and educate the public over a period of more than a year. Congress was fully advised and could at any time have taken action to abort the proposed leasing. In short, the process worked well to insure that the possible consequences of this major action in opening areas off our most populated coasts to oil and gas production was fully debated, open to political veto, and considered in depth by the Secretary and his staff as well as by other units of government. As already suggested, there is one exception to this finding; it relates to a failure to consider local decisions that might have a substantial environmental impact.

Nevertheless, a strong argument has been made, supported by considerable circumstantial evidence, that all the EISs and public hearings were but a charade; that the decision to lease was a foregone conclusion once Presidents Nixon and Ford and others in their administration, including successive Secretaries of the Interior, decided some years ago that production of hydrocarbons from the OCS should proceed speedily. Given the nature of our political system this is always a possibility in the NEPA process. Government officials are not immune from mendacity. Nevertheless, on

balance, the court has not been convinced that the Secretary and his subordinates did not attempt to execute NEPA honestly.

As a practical matter there is no way the President can be restrained from setting national goals before he has been fully advised through an EIS. Faced with a grave international threat and disastrous impact on our economy, we cannot say that two Presidents should have remained silent. Even though events proved the grandiloquent Presidential promise of rapid self-sufficiency in energy an empty one, it was no violation of NEPA to attempt to mobilize the nation to meet a severe challenge. Certainly, his appointees and even the permanent civil service were bound to be affected by the statements of the Chief Executive. But, as it turned out, further study and debate, partly based upon the EISs, led to a sharp reduction of the OCS acreage which was to be leased. Even in the Middle Atlantic area of Sale No. 40, there is little doubt that the reduction in size of the offering and the nature of the lease stipulations have been affected by the necessity of a public justification of environmental costs.

Moreover, the delays attendant upon study, publication and hearing gave Congress a chance to block the sale. It did not do so. The action of Congress in the Trans-Alaska

Pipeline controversy to short-circuit NEPA procedures indicates that Congress is aware of these oil-gas developments. See 43 U.S.C. § 1652. It can take action if it wishes to do so.

Finally, there is a categorical denial that the Secretary made a decision prior to completion of the entire NEPA statement. Final EIS OCS Sale No. 40, Vol. III, p. 75. The documentary and other evidence failed to convince the court that this was a lie.

It must be recognized that both the accelerated program and Sale No. 40 involve significant political considerations of widespread interest. As a result, it is not realistic to assume that discussion and debate among high public officials and decisionmakers will not take place prior to a final decision. The fact that this dialogue precedes the decision and was engaged in by the eventual decisionmaker does not, as plaintiffs assert, indicate that the Secretary cannot consider the environmental data presented him with good faith objectivity.

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Use of the PDODs was proper. As the Supreme Court has indicated, assistants may be used to sift, analyze and summarize information for use by administrative decision-makers even in quasi-judicial proceedings. Morgan v. United States, 298 U.S. 468, 481 (1936). See also, Montrose Chemical Corp. v. Train, 491 F.2d 63, 68, 71 (D.C. Cir. 1974); Braniff Airways, Inc. v. CAB, 379 F.2d 453 (D.C. Cir. 1967). A fortiori they can do this when an important administrative decision is required.

With one exception already adverted to and discussed below in subsection E, plaintiffs' NEPA challenge fails. To understand the nature of this point it is essential to consider the relation of proposed federal leases to state and local governmental powers and concerns, the matter to which we now turn.

D. Coastal Zone Management Act

NEPA is not the only major legislative scheme implicated in the proposed OCS oil and gas drilling projects. Among others, there is a Coastal Zone Management Act, 16 U.S.C. §§ 1451 et seq., which supports state planning for

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OCS development. The CZMA suggests the nature of a substantial question as to the reliability of the decision-making regarding Sale No. 40. State planning under the Management Act and state laws may well negate some of the primary assumptions upon which the Secretary of the Interior based his decision to proceed with leasing. If this is so, then the leasing decision subverts the purpose of NEPA. See subsection E, infra.

The necessity of recognizing the strong state and municipal interest in coastal zone management is reflected in the Congressional findings with respect to need:

33 U.S.C. § 1451. Congressional findings

> The Congress finds that—
>
> (a) There is a national interest in the effective management, beneficial use, protection, and development of the coastal zone;
>
> (b) The coastal zone is rich in a variety of natural, commercial, recreational, industrial, and esthetic resources of immediate and potential value to the present and future well-being of the Nation;
>
> (c) The increasing and competing demands upon the lands and waters of our coastal zone occasioned by population growth and economic development, including requirements for industry, commerce, residential development, recreation, extraction of mineral resources and fossil fuels, transportation and navigation, waste disposal, and harvesting of fish, shellfish, and other living marine resources, have resulted in the loss of living marine resources, wildlife, nutrient-rich areas, permanent and adverse changes to ecological systems, decreasing open space for public use, and shoreline erosion;

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(d) The coastal zone, and the fish, shellfish, other living marine resources, and wildlife therein, are ecologically fragile and consequently extremely vulnerable to destruction by man's alterations;

(e) Important ecological, cultural, historic, and esthetic values in the coastal zone which are essential to the well-being of all citizens are being irretrievably damaged or lost;

(f) Special natural and scenic characteristics are being damaged by ill-planned development that threatens these values;

(g) In light of competing demands and the urgent need to protect and to give high priority to natural systems in the coastal zone, present state and local institutional arrangements for planning and regulating land and water uses in such areas are inadequate; and

(h) The key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states to exercise their full authority over the lands and waters in the coastal zone by assisting the states, in cooperation with Federal and local governments and other vitally affected interests, in developing land and water use programs for the coastal zone, including unified policies, criteria, standards, methods, and processes for dealing with land and water use decisions of more than local significance.

33 U.S.C. § 1452. Congressional declaration of policy

The Congress finds and declares that it is the national policy (a) to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations, (b) to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and esthetic values as well as to needs for economic development, (c) for all Federal agencies engaged in programs affecting the coastal zone to cooperate and participate with state and local governments and regional agencies in effectuating the purposes of this chapter, and (d) to encourage the participation of the public, of Federal, state, and local governments and of regional agencies in the development of coastal zone management programs. With respect to implementation of such management programs, it is the national policy to encourage cooperation among the various state and regional agencies including establishment of interstate and regional agreements, cooperative procedures, and joint action particularly regarding environmental problems.

The coastal zone includes the three miles of seabed extending out from the coast, 43 U.S.C. §§ 1301, 1302, 1311, 1312. It also encompasses beaches, wetlands, estuaries and the like "in proximity to the shorelines of the several

coastal states." 16 U.S.C. § 1453(a). Because of the barrier islands like Fire Island lying along the Northeast coast, bays like Great South Bay in Long Island, deep wetlands and beaches such as those in New Jersey's Cape May County and huge estuaries with their many bays and inlets such as those leading from the Baltimore and Hudson canyons in the OCS, the area involved is of enormous size and importance. Millions of people reside, work and play within its bounds; much of the nurseries of the Atlantic fisheries are located there; its destruction or serious damaging would result in loss of economic and aesthetic values at least comparable to the value of the Atlantic OCS hydrocarbon resources.

The original Management Act, adopted in 1972, Pub. L. 92-583, provided primarily for federal grants to assist coastal states in developing "a management program for the land and water resources of its coastal zone." 16 U.S.C. §§ 1454, 1455. The plan was to include "a definition of what shall constitute permissible land and water uses within the coastal zone which have a direct and significant impact on the coastal waters." 16 U.S.C. § 1454(b)(2). Extensive provisions for cooperation with municipal and federal authorities and for public hearings were required. 16 U.S.C.

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§§ 1455(c)(d)(e)(f) 1456, 1460. Substantial sums have been appropriated to carry out the purposes of the act. 16 U.S.C. § 1464.

The states concerned with Sale 40 leasing have made substantial efforts to carry out the Management Act's purposes. They are in advanced stages of the work. For example, the court takes judicial notice of the fact that while this case was being tried in Westbury, Nassau County, New York was holding public hearings in the adjoining village of Garden City on its detailed wetlands policies severely restricting use of the coastal zones.

Congress was aware that the states were actively planning for future use of coastal waters. Report on H.R. 3981, Coastal Zone Management Act Amendments of 1975, 94th Cong., 2d Sess., Report No. 94878, p. 13 (House Report).

The importance Congress and the President attaches to these management plans and to coordination among state, local and federal authorities is reflected in the extensive amendment signed by the President on July 26, 1976. Pub. L. 94-370. In the first place, it explicitly acknowledged the close connection between the states' management plans and

national energy policy, particularly that dealing with development of OCS hydrocarbon mining and transportation of oil and gas. Added to the Management Act, 16 U.S.C. § 1451, is the following explicit finding:

> (i) The national objective of attaining a greater degree of energy self-sufficiency would be advanced by providing Federal financial assistance to meet state and local needs resulting from new or expanded energy activity in or affecting the coastal zone.

New definitions were added to 16 U.S.C. § 1453 reading:

> (4) The term 'coastal energy activity' means any of the following activities if, and to the extent that (A) the conduct, support, or facilitation of such activity requires and involves the siting, construction, expansion, or operation of any equipment or facility; and (B) any technical requirement exists which, in the determination of the Secretary, necessitates that the siting, construction, expansion, or operation of such equipment or facility be carried out in, or in close proximity to, the coastal zone of any coastal state;
>
> "(i) Any outer Continental Shelf energy activity.
>
> "(ii) Any transportation, conversion, treatment, transfer, or storage of liquefied natural gas.
>
> "(iii) Any transportation, transfer, or storage of oil, natural gas, or coal (including, but not limited to, by means of any deepwater port, as defined in section 3(10) of the Deepwater Port Act of 1974 (33 U.S.C. 1502(10))).
>
> For purposes of this paragraph, the siting, construction, expansion, or operation of any equipment or facility shall be 'in close proximity to' the coastal zone of any coastal state if such siting, construction, expansion, or operation has, or is likely to have, a significant effect on such coastal zone.
>
> "(5) The term 'energy facilities' means any equipment or facility which is or will be used primarily—
>
> "(A) in the exploration for, or the development, production, conversion, storage, transfer, processing, or transportation of, any energy resource; or
>
> "(B) for the manufacture, production, or assembly of equipment, machinery, products, or devices which are involved in any activity described in subparagraph (A).
>
> The term includes, but is not limited to (i) electric generating plants; (ii) petroleum refineries and associated facilities; (iii) gasification plants; (iv) facilities used for the transportation, conversion, treatment, transfer, or storage of liquefied natural gas; (v) uranium enrichment or nuclear fuel processing facilities; (vi) oil and gas facilities, including platforms, assembly plants, storage depots, tank farms, crew and supply bases, and refining complexes; (vii) facilities including deepwater ports, for the transfer of petroleum; (viii) pipelines and transmission facilities; and (ix) terminals which are associated with any of the foregoing. ";

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(12) The term 'outer Continental Shelf energy activity' means any exploration for, or any development or production of, oil or natural gas from the outer Continental Shelf (as defined in section 2(a) of the Outer Continental Shelf Lands Act (43 U.S.C. 1331(a))), or the siting, construction, expansion, or operation of any new or expanded energy facilities directly required by such exploration, development, or production.

To underscore the relationship with national energy policy, the state program must consider this issue. 16 U.S.C. § 1455 (c)(8) was amended to read:

(8) The management program provides for adequate consideration of the national interest involved in planning for, and in the siting of, facilities (including energy facilities in, or which significantly affect, such state's coastal zone) which are necessary to meet requirements which are of greater than local in nature. In the case of such energy facilities, the Secretary shall find that the state has given such consideration to any applicable interstate energy plan or program.

The Secretary must cooperate with the states in controlling exploitation of OCS energy resources. No lease or license to produce oil or gas or to transport it may be granted by federal authorities if it will interfere with a state's plan. If there is an inconsistency detailed procedures for resolving it must be followed:

(B) After the management program of any coastal state has been approved by the Secretary under section 306, any person who submits to the Secretary of the Interior any plan for the exploration or development of, or production from, any area which has been leased under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.) and regulations under such Act shall, with respect to any exploration, development, or production described in such plan and affecting any land use or water use in the coastal zone of such state, attach to such plan a certification that each activity which is described in detail in such plan complies with such state's approved management program and will be carried out in a manner consistent with such program. No Federal official or agency shall grant such person any license or permit for any activity described in detail in such plan until such state or its designated agency receives a copy of such certification and plan, together with any other necessary data and information, and until—

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"(i) such state or its designated agency, in accordance with the procedures required to be established by such state pursuant to subparagraph (A), concurs with such person's certification and notifies the Secretary and the Secretary of the Interior of such concurrence;

"(ii) concurrence by such state with such certification is conclusively presumed, as provided for in subparagraph (A); or

"(iii) the Secretary finds, pursuant to subparagraph (A), that each activity which is described in detail in such plan is consistent with the objectives of this title or is otherwise necessary in the interest of national security.

If a state concurs or is conclusively presumed to concur, or if the Secretary makes such a finding, the provisions of subparagraph (A) are not applicable with respect to such person, such state, and any Federal license or permit which is required to conduct any activity affecting land uses or water uses in the coastal zone of such state which is described in detail in the plan to which such concurrence or finding applies. If such state objects to such certification and if the Secretary fails to make a finding under clause (iii) with respect to such certification, or if such person fails substantially to comply with such plan as submitted, such person shall submit an amendment to such plan, or a new plan, to the Secretary of the Interior With respect to any amendment or new plan submitted to the Secretary of the Interior pursuant to the preceding sentence, the applicable time period for purposes of concurrence by conclusive presumption under subparagraph (A) is 3 months."

The following new subsection has been added to 16 U.S.C. § 1456:

(h) In case of serious disagreement between any Federal agency and a coastal state—

"(1) in the development or the initial implementation of a management program under section 305; or

(2) in the administration of a management program approved under section 306;

the Secretary, with the cooperation of the Executive Office of the President, shall seek to mediate the differences involved in such disagreement. The process of such mediation shall, with respect to any disagreement described in paragraph (2), include public hearings which shall be conducted in the local area concerned.

Substantial federal loans and grants are made available for a "coastal energy impact program" to assist the states in meeting problems associated with OCS developments. See 16 U.S.C. §§ 1456-1468, Coastal Zone Management Act of 1972 §§ 308 et seq., as amended. The Secretary may, however, not make the "siting of any energy

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facility . . . a prerequisite to, or a condition of, financial assistance." Coastal Zone Management Act of 1972, as amended, § 308(i). This provision insures against coercion by the Secretary and guarantees the states' independence. Cooperation among the states through compacts and otherwise is encouraged. Id. § 5309(a).

These extensive 1976 amendments were required because when "Congress enacted the program in 1972, the energy crisis had not yet emerged." House Report, 13. The Act was designed to "enable the states to cope with an accelerated offshore oil and gas leasing program." Id. Any federal energy program will be dependent upon the cooperation and the individual actions of State and local governments. Id. at 14. It was recognized by Congress that the need to provide planned on-shore facilities in connection with these leases was critical to any rational federal program. Id. at 52, Appendix III at 119. Report of the Senate Committee on Commerce, 94th Cong., 1st Sess., No. 94-277, p. 3 (1975) (Senate Report); Report of the Committee of the Conference on S. 586, 94th Congress, 2d Sess., No. 94-1298, p. 23 (Conference Report).

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The original Coastal Zone Management Act of 1972 was enacted before anyone contemplated the sudden subsequent expansion of the offshore oil leasing program, and its consequential severe impacts on the coastal zone:

> But it was not until the Arab oil embargo occurred, exactly a year after passage of the Coastal Zone Management Act, that state governments realized the intensity of these developmental pressures on the coastal zone... [T]he energy crisis seemed suddenly to shorten the time available to states to plan for and cope with other state-level leaders expressed the frustration they felt at the prospect that irrevocable Federal decisions affecting their coastal zones would be made before the states had had time to develop management programs.

Senate Report, p. 9.

What worried the Congress is reflected in the analysis of the National Ocean Policy Study series of four reports on the Outer Continental Shelf, which led to three "key findings," set forth in the Senate report as follows:

1. There is a strong likelihood of adverse, often severe, impacts within coastal regions resulting from unplanned, uncoordinated energy resource development and from the siting of facilities related to energy production, development, and utilization.

2. There is very little coordination or communication between Federal agencies and the affected coastal States prior to major energy resource development decisions, such as the decision to lease large tracts of the OCS for oil and gas. Further, coastal States often have been criticized unfairly for delaying the siting of energy facilities when such action often is the result of lack of information and planning.

3. Full implementation of the Coastal Zone Management Act of 1972 and recognition of its capability to solve energy-related conflicts could go far to institute the broad objectives of Federal-State cooperative planning envisioned by the framers of the act. The National Environmental Policy Act and the Coastal Zone Management Act are the two primary planning devices to achieve balanced land use and environmental protection in coastal regions.

Senate Report, p. 3.

The perception that the original act could not do the job, led to the conclusion that more action was needed from Congress:

> The prospect of accelerated OCS oil and gas lease activity, along with growing energy facility requirements and the imminent construction of deepwater ports, add to the challenge of bringing rational management to the coastal zone. These probable events have therefore led directly to the Committee's present action to amend the Coastal Zone Management Act.

Senate Report, p. 10.

A chief purpose of the 1976 Amendments is to "improve and strengthen coastal zone management." The means recognized by Congress to achieve this goal are clearly set out in the Conference Report, and include:

> (3) that a strengthened coastal zone management program, with full participation by the states, is vital to the protection and proper management of irreplaceable coastal resources and is the best means of dealing with impacts from new or expanded coastal energy activity; ...(5) that the coastal states and localities, which are closer to and more cognizant of the situation, should make the basic decisions as to the particular needs which result from such new or expanded energy activity; and (6) that the discretion of the Secretary of Commerce and other Federal officials should be correspondingly limited.

Conference Report, p. 24 (emphasis supplied).

Congress also recognized the very same land use and socio-economic disruptions described by a number of witnesses before this court that would probably result from the magnitude and compressed timing of the impacts:

> In addition to the visible ecological damage in Louisiana wetlands, other experiences in that State create concern in coastal areas facing oil development for the first time. For instance, 80 per cent of all investment in Louisiana's new manufacturing facilities between 1938 and 1971 took place in coastal parishes (counties), reflecting support activities for offshore petroleum development. A total of $5 billion was invested in petrochemical industrial facilities in Louisiana's coastal zone during those years, with over 100 major petroleum and petrochemical plants placed in coastal parishes.

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There are signs, even before the first Federal lease sale is held off Alaska, that these impacts are beginning. ...Rumors of speculative land purchases abound, and local citizens report sudden increases in land values. ...

...[D]irect employment in oil-support activities in northeast Scotland grew from 2,665 to 11,275 during the short period between December 1973 and March 1974. Local efforts to plan for this explosive growth have not always been successful. For instance, one platform fabrication plant estimated in advance to employ 600 persons actually employs 3,000 in peak periods.

Shortages of housing, skilled labor, berths in harbors, and equipment have had an adverse impact on some of the older established industries," the report found.

The city of Aberdeen, now sometimes called the Houston of the North, has experienced rapid growth because of oil. One consequence of this growth has been skyrocketing prices for land. During the last 4 years, the NOPS study found, the price of industrial land with water and sewer service in the Aberdeen area rose from $7,200 to as much as $96,000 per acre.

A second study of the Scottish experience with offshore oil...found the Scottish situation more likely to parallel events in the so-called frontier areas of the American OCS than the developments in the Gulf of Mexico. This conclusion stemmed from the fact that Alaska and Atlantic oil operations, like those in the North Sea, will represent the entry of a wholly new kind of industry in some areas. Furthermore, a rapid buildup to a high level of production--assuming success in discovering oil or gas--will be required in the new areas, as it is in the

> North Sea, in order to meet today's energy needs and to reduce reliance on imported oil. Finally, the severe weather conditions of the North Sea closely resemble those in the Atlantic and the Gulf of Alaska; these require new technologies which, in turn, require new types of onshore facilities.
>
> The Conservation Foundation report found that the most noticeable impacts in Scotland have been the result of support industries--such as oil production platform fabrication--rather than the oil industry's own operations. Employment and activity levels in these support activities peak even before oil production begins. Construction of any sort is a labor-intensive activity, and massive construction activities involving platforms, pipelines, tanker terminals, and refineries--not to mention schools, houses, offices, roads and other public facilities--bring thousands of workers into areas experiencing oil development. When this boom is over, an early 'bust' may follow. Shrinkage of population and job opportunities also requires planning and management.

Senate Report, pp. 16-17.

It is apparent that the Secretary, in view of these concerns would have been justified in putting off a decision to lease for production, permitting exploration and state planning to go forward in consonance with the spirit of the 1976 amendments to the Management Act. But the issue before this court is not what the most sensible decision might have been, but whether he was required by law to await formal Management Act plans.

At issue is whether Congress intended new OCS leasing to await state compliance with the Management Act. The

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legislative history is ambiguous. Obviously Congress intended coordination between state and federal authorities so that no OCS action would be taken inconsistent with state policy unless every effort had been made to obtain consistency. Senate Report p. 19. The Secretary complained to Congress that the various NEPA requirements provided sufficient input from the states. Id. at 80-82. He opposed "additional delays ... to protect the states' future interests." Id. at 82. Implied was his opposition to the "subject bills [which] assume a present inadequacy in cooperative effort for OCS planning and control." Id. at 80. Congress was not in agreement with him on this point; it adopted the bill. The Senate Report states flatly that:

> In practical terms, this means that the Secretary of the Interior would need to seek the certification of consistency from adjacent State governors before entering into a binding lease agreement with private oil companies.

Senate Report, p. 20. But the report goes on to state that this right will not be available until the states have applied for the Secretary's approval of the state program, which will probably not occur before 1977. Id. at 20. The Conference Report indicated that fiscal inducements were provided to encourage prompt state approvals of federal leasings, implying a power to block leasing for up to a six-month period. Conference Report, p. 25. See also Id.

at 30.

It is of some interest that by letter dated June 29, 1976, the Chairman of the House Ad Hoc Committee on Outer Continental Shelf, House of Representatives, Hon. John M. Murphy of New York and five other Representatives wrote to the Secretary asking him to postpone Lease 40 sales until the Congress could enact legislation for spill liability. They made no reference to the pending Management Act and apparently assumed that that Act would not prevent leasing. The Secretary politely declined their request in a letter dated July 13, 1976. See also letter from Mr. Murphy dated July 7, 1976 and the Secretary's response of July 20, 1976.

Impact funding under the Amendment to the Management Act will be available immediately to all states which might be potentially affected by Sale 40. The amendments provide for the availability of these funds to any state which has either (1) adopted and had approved by the Secretary of Commerce under section 306 a Coastal Zone Management Program; (2) is operating under a program development grant made available under either the 1972 or 1976 versions of the Act; or (3) "is, in the judgment of the Secretary, making satisfactory progress toward the development of a management program." Section 308(g)(1)(C). All states potentially affected by Sale 40 have met the second of the three standards mentioned above. According to the Sale

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40 EIS at Vol. I, pp. 42-49, each of these states is progressing toward the formulation of a plan and has received development grants to assist it in this activity. New York received its first-year development grant in November 1974, Id. Vol. I, p. 42. New Jersey obtained a second year grant in June 1975. Id. Delaware received a second year grant in July 1975. Id. Vol I, p. 44. Maryland was operating under a second year grant at the time the Sale 40 EIS was prepared. Id. Vol I, p. 45. Virginia's first year planning grant was approved in August 1974. Id. Vol. I, p. 46. And Pennsylvania has received planning grants and anticipates implementation grants in July 1977. Id. Vol. I, p. 48. "Coastal Zone Management plans," the Final EIS OCS Sale No. 40 admitted, "should be implemented by Mid-Atlantic States by November 1977," and for those in close proximity to the tracts proposed to be leased by July, 1977. Vol. II, p. 516.

Drafters of the Sale No. 40 EIS were aware of the potential amendments to the Coastal Zone Management Act and made specific mention of them. Id. Vol. II, pp. 528-29. This discussion concerned the alternative of delaying the sale until the amendments became effective in order to provide the affected states with the impact funding they considered so important. The Sale 40 EIS also discussed the alternative of delaying the sale until after the

adoption of coastal zone management plans by the affected states. Id. Vol. II, pp. 516-19. It was concluded that even if the plans were adopted as late as 15 months after the sale, there would be sufficient time for the states to exercise some control over on-shore activity since the production phase--the one with the greatest on-shore impact--would not begin until 1979, after the extent of reserves in the area and the need for onshore facilities to service them have been determined. The controls to be exercised by the states under the Coastal Zone Management Act were also discussed in the Sale 40 EIS as measures capable of mitigating the anticipated impacts of the sale. Id. Vol. II, pp. 426-30. Finally, the Sale 40 EIS discussed the Coastal Zone Management Act in connection with its discussion of the relationship of the proposed sale to other existing programs. Id. Vol. I, pp. 39-49. In this discussion, the EIS makes specific reference to the "consistency" provision of the Act and indicates that this provision, along with the other local controls such as zoning, will enable the affected states to exercise certain controls over the proposed federal OCS activity. Id. Vol. I, pp. 40.

The EIS assumes that the consistency provision only becomes effective after approval of the state's management plan and notes that none of the states likely to be affected by Sale 40 have adopted such plans or sought approval.

This interpretation that leases need not await approval of formal Coastal Zone Management Plans pursuant to the CZM is consistent with the language of the Act. Under the 1972 Act, the consistency provision became operative only "after final approval by the Secretary of a state's management program." The 1976 amendment uses similar language: "After the management program of any coastal state has been approved." At the present time no formal statutory plan has been put in final form by any of the impacted states. The Act requires that the state must have moved out of the development phase into the administration phase of its program under the Management Act before the Federal consistency requirements apply.

Should the affected states have plans completed, they can participate in the approval of the production development program. Current Department of Interior regulations require a lessee to submit a detailed plan to the area oil and gas supervisor for approval prior to commencing exploratory drilling, including construction of platforms, 30 C.F.R. sec. 250. 34 (a), and prior to commencing each development program on a lease, 30 C.F.R. sec. 34 (b). The special stipulations in the proposed leases applicable to proposed Mid-Atlantic Sale No. 40 provide, in Stipulation No. 7, that

the lessee is to submit a "Notice of Support Activity for the Exploration Program" to the Governor of each Mid-Atlantic state to provide states with information to assist them in planning for the impact of activities during exploration. New York, New Jersey, Delaware, Maryland, Virginia, and Pennsylvania are designated as Mid-Atlantic states. This Notice must be sent to the states no later than the lessee's submission of an exploration plan and the lessee must certify to the area supervisor that he has sent the required notice to the states. The Notice must include several specified descriptions and estimates of how the OCS activities will affect each state, including descriptions, site and size of onshore and nearshore support facilities, the amount and location of needed acreage, boat and air traffic frequency and possible onshore terminal location, number of onshore employees and approximate number of those who will be local people, estimate county-basis population additions with expected housing and other needs, and an estimate of supplies to be procured within each state. Although the supervisor does not approve or disapprove this notice, he must allow at least 30 days for the state to comment to the lessee on the notice. See, 41 Fed. Reg. 29439.

The conclusion that the Management Act does not require the Secretary to forego leasing does not end our

inquiry. To do so we must turn back to NEPA to discuss an issue left effectively unresolved in the discussion of that act. The question is whether the possibility of the states taking action before or after the Management Plans become effective make the environmental assumptions of the Secretary set out in the Sale No. 40 EIS invalid. As we will indicate, the states have substantial powers independent of the Management Act.

As of today and in the foreseeable future, it is the states, not the federal government or oil companies which will decide how the land inside the three-mile limit will be used. They have the power to exclude completely oil pipelines from off-shore and on-shore oil and gas facilities. We need not decide whether the Constitution would permit a change of this state veto power under the Commerce Clause or some other provision, for Congress has shown no desire to use compulsion against the states.

The issue is whether these independent powers of sovereign states to control their own lands to prevent certain uses by private oil companies can so frustrate federal administrators' assumptions that they must be considered under NEPA. This is the point we now address.

E. Effect of State Control of Land and Environment on NEPA

If the states bordering the Sale 40 area prevented pipelines from OCS drilling sites from crossing their shores--as states have the power to do--then the only alternative for transporting oil would be by tankers. A state decision banning pipelines is not inconceivable given the substantial environmental impact that a pipeline and oil spillage from a pipeline may have on coastal lands. Uncontroverted evidence indicated that a million barrel spill was possible before automatic shut-off equipment took effect.

Even as heavily an industrialized state as New Jersey would experience significant interference with its remaining natural terrain. Substantial testimony credited by the court as well as data in the EIS show that pipelines and their rights of way could do substantial harm to wetlands, beaches, the Pine Barrens of New Jersey and other fragile areas.

The feasibility of pipelines for the transportation of oil has been a cornerstone of Mid-Atlantic OCS planning. Reliance on pipelines is caused by the fact that one of the most important hazards from OCS oil drilling is the environmental damage from oil spills. A Study prepared for the House Ad Hoc Select Committee on OCS (Study) reported that,

> It is generally recognized that the accidental release of oil into the marine environment represents, from an ecological viewpoint, the most critical OCS event.

Effects of Offshore Oil and Natural Gas Development on the Coastal Zone, 94th Cong., 2d Sess., at 11 (1976). The NEPA documents and the PDOD's on accelerated leasing and Sale No. 40 have likewise recognized the severity of damage from oil spills.

As a result, the Study of the Effects of Offshore Oil and Natural Gas Development on the Coastal Zone, the NEPA documents and the PDOD's have all proceeded on the assumption that OSC oil would be transported by pipeline in case of a major strike since the probability of spills is so much less by pipeline than by tanker.

> In transport from offshore to onshore facilities, oil sometimes leaks from pipelines (especially from older pipelines). Improved coating and cathodic protection of pipe can reduce pipeline corrosion rates. Many new pipelines also have automatic shutdown devices to stop the oil flow if a major leak occurs.

Study of the Effects of Offshore Oil and Natural Gas Development on the Coastal Zone for the House Ad Hoc Select Comm. on OCS, 94th Cong., 2d Sess., at 13 (1976).

Set out below are some of the references in the final Sale 40 EIS suggesting how much reliance was placed upon the assumption that the affected states would permit pipelines from the oil fields through their three miles of sea bed and on-shore coastal zones.

It is anticipated that all oil and gas produced as a result of this proposed sale will be transported to shore by pipeline (special stipulation, Section IV.E), though a possibility exists that tankers might be used. Oil and gas would be carried in separate pipelines, having first been separated on platforms offshore. Small gathering lines would collect production from platforms, gathering at central points where larger pipelines (24 to 36 inches diameter) would carry production in corridors. It is assumed that from one to four corridors would be established from offshore point to onshore facilities (2 pipelines per corridor). Offshore pipelines (assuming four pipelines) would traverse from 100 to 570 miles of sea bottom. The expense of pipeline burial, coupled with implications for the marine environment should a major break occur, have combined to dictate conservative design, emplacement, and operating procedures. Under a stipulation proposed for this proposed sale (Section IV.E.), all pipelines will be buried (when technically and economically feasible as determined by the USGS Area Oil and Gas supervisor). The burial depth will be determined on a case-by-case basis by the Supervisor.

Vol. II, pp. 17-18.

Terminal facilities would be located near the landfall of pipelines, and the oil piplines would then proceed to refineries for processing of the crude oil. Because it is expected that the oil will be processed in existing refineries in the northern New Jersey or the Delaware River Basin, it is most probable that pipeline terminals would be located somewhere along the New Jersey coast, with pipeline routes over land to the refineries. Because of the expense of laying, monitoring and maintaining underwater pipelines, landfalls near or on the Atlantic shoreline of New Jersey are more probable than those deeper into Delaware Bay. However, a pipeline landfall in Delaware, with a corridor through Delaware City and/or Philadelphia area refineries has also been suggested (Goodman, 1975 et al.). A pipeline landfall in Delaware could conceivably mark

the beginning of a corridor to Baltimore, although the small existing capacity there is not thought to warrant it.

Vol. II, pp. 227-228.

D. Pipelines

Federal responsibility in regard to on-shore pipelines, both oil and gas, is divided among several agencies. The Materials Transportation Bureau in the Department of Transportation (DOT) has the primary responsibility for assuring pipeline design as well as construction and operational practices. Their responsibility is basically one of setting standards. Similar to offshore pipelines, the MTB is involved in pipeline safety and inspection to cause, by those responsible for the pipelines, the prompt reporting of any potential leaks or safety problems, and report annually to the President, the Congress, the Secretary of the Interior, and the Interstate Commerce Commission of any potential leaks or actual explosions and spillages in these pipelines.

The Federal Power Commission can authorize the bringing ashore of natural gas pipelines by issuing a Certificate of Public Convenience and Necessity. If the FPC feels it necessary, the agency prepares an environmental impact statement to evaluate aquatic and onshore impact of potential production from the pipeline.

The Corps of Engineers also becomes involved where a proposed pipeline crosses navigable waters. The wetlands legislation in the respective states would require permitting and [sic] environmental impact statements for pipelines proposed for construction through wetlands. Several states possess regulations, as part of their pollution prevention programs, that would require permits and appropriate environmental analysis if proposed pipelines were to cross any watercourse. New Jersey [Coastal Area Facilities Review Act (1973).] and Maryland [Coastal Facilities Review Act (1975).]have legislation that would require permitting

and [sic] appropriate environmental analyses for proposed pipelines in legislatively designated portions of the coastal zone. Although local plans may be formulated that identify desirable utility corridors, rarely do zoning plans restrict pipelines to predetermined locations. Local ordinances may, however, prescribe procedures for obtaining local review and approval of proposed pipelines. Direct federal responsibility for the siting of onshore facilities is limited except for federally administered lands. Some federal regulatory responsibilities, however, could indirectly influence the siting and subsequent operation of these facilities. Essentially, federal regulatory programs can be invoked, in some instances, to mitigate operational, but not locational, adverse effects. State and local planning and regulatory authorities provide the primary framework within which potential adverse effects on the onshore facilities can be addressed. The regulatory authority of the states has both operational and locational significance. It is primarily the local zoning power, however, that provides the basis for affirmative action to mitigate adverse effects stemming from locational factors.

It is the intent of the Bureau to require, wherever possible, pipeline corridors in the area of this proposed sale to minimize disturbance of the environment and disruption of other uses of the OCS. Additionally, such corridors could help mitigate some of the potential impacts of on-shore facilities which could result in the absence of such comprehensive planning efforts. A proposed lease stipulation that will be include [sic] in each Mid-Atlantic oil and gas lease, will enable the Bureau to require that pipelines used to transport oil to shore be placed in designated corridors. If commercial quantities of oil are discovered, pipeline corridor management studies will be initiated to identify the least environmentally hazardous areas in which to require the placement of lines. Although these studies are primarily concerned with the OCS, they will also include areas suitable for the location of on-shore processing and

support facilities, and will be coordinated with other Federal, State and local authorities.

If commercial finds of hydrocarbons are made, then pipeline corridor management studies will be conducted in two phases. The first phase will identify macro-corridors (including potential landfall areas) using existing environmental and socio-economic data. Representatives of affected states as well as the petroleum industry, will be encouraged to participate in this planning effort. Once tentative corridors have been identified the second phase of the study effort will be initiated. It will consist of a BLM-funded contract study to obtain quantitative biological, chemical geological and physical oceanographic baseline data for the tentatively identified corridors. The collected data, once analyzed, will be utilized to select the final corridors and landfall locations with the least net environmental and socio-economic adverse impacts.

Vol. II, pp. 455-57

The Sale 40 PDOD makes a firm assumption that pipelines will be used. See p. 5. It is stated:

> Pipelines
> Besides the special stipulations that will require companies to submit to the states exploration and development plans, two other special stipulations are designed to mitigate the controversial issues of oil shipping and pipeline burial. The first of these is to minimize the transport of oil via tankers and barges. The second is a stipulation preserving the Bureau's right to require pipelines be placed in designated corridors.

Sale 40 PDOD p. 15. See also the comments of the United States Department of the Interior, Geological Survey, Final EIS OCS Sale No. 40, Vol. III, p. 162 (analysis of tanker spillage misleading since the assumption is "that all

production would be transported through pipelines").

The Final Sale 40 EIS does mention in passing the possibility that right of way might be denied by the states:

> d. Tanker Accidents and Operations
> Tanker accidents, carelessness, or mismanagement release almost 36.5 million barrels of oil annually into the world's oceans (Charter et al., 1973). About 98 percent of all the oil spilled be vessels is from incidents over 1000 barrels (CEQ, 1974). Most large tanker spills occur nearshore (within 50 miles of land) when a vessel runs aground, rams a fixed structure, or collides with another vessel.
> If pipelines are found to be technically or economically not feasible or if rights-of-way are denied in State waters, tankers may have to be used as a result of this proposed sale rather than pipelines.

Sale 40 EIS, Vol. II, p. 30 (emphasis added). See also Id. Vol. III, p. 32. Cf. the comments of New York: Id. Vol. III, p. 224; comments of New Jersey: Id. Vol. III, p. 242, 258; comments of Delaware: Id. Vol. III, pp. 287, 301, 303-304, 309; comments of Virginia: Id. Vol. III, pp. 320, 326; other comments: Id. Vol. III. pp. 352, 390-391, 416, 531-534.

But the total discussion makes it clear that the states have no effective power to prevent the oil and gas lines going where the federal government wants them to. It also assumes that the use of pipelines is both economically and technically feasible in case of a large oil discovery -- the assumption made in considering all environmental impacts. For example, in the Programmatic PDOD on the OCS leasing Program it is noted:

> Probably the most important environmental costs of OCS oil production arise from the risk of oil spills. While this risk is widely recognized in the case of OCS production, it is not always acknowledged that the same risk exists whenever oil is imported by tankers. In fact, the evidence suggests that the risk of oil spills may be greater if oil is imported in tankers than if oil is produced off-shore and transported on-shore in pipelines.
>
> As reported in the Programmatic EIS the relative oil spill rates for tankers and OCS production are as follows:
>
> tankers: .0016
> OCS production: .0009
>
> This means that for every 100,000 barrels of oil imported by tankers, 16 barrels would be spilled, on average. On the other hand, for every 100,000 barrels of oil produced offshore, 9 barrels would be spilled, on average.
>
> If the above rates are reasonable predictors of future spill rates, then the risks of oil spills will be reduced whenever OCS production, transported ashore by pipelines, displaces foreign imports transported in tankers. Substantial foreign tanker imports are now being landed on the East Coast, Gulf Coast, and Pacific Coast. These imports could be displaced by new OCS production off these coasts, and it is reasonable to assume that any new OCS production off these coasts would be transported ashore by pipelines; about 90 percent of Gulf of Mexico OCS production is landed in pipelines. Therefore, new OCS production realized off the Atlantic, Gulf and Pacific Coasts should result in a net decrease in the risks of oil spills on those coasts.

At pp. 5-6 (footnotes omitted). Cf. final EIS OCS Sale No. 40, Vol. III, p. 18.

Even after public hearings criticizing the lack of specificity in discussion of pipelines, there was no

discussion and apparently no real awareness of the fact that state laws may severely restrict pipelines and related on-shore facilities. See, e.g., Final EIS Sale No. 40, Vol. III pp. 30-32. In answer to criticisms, the Final EIS OCS Sale No. 40 states: "The Department is also committed to the concept of requiring transport of oil via pipeline, rather than allowing tanker transport." Id. Vol. III, p. 46. See also Id. Vol. I, pp. 30-31 ("we do not feel [tankers will be used and heavy spills result], but instead that pipelines will be used").

As the appendix to this memorandum makes clear, there are a complex of state statutes and programs affecting pipelines and other supporting facilities. Most of the six states affected by Sale No. 40, Delaware, New York, New Jersey, Pennsylvania, Maryland and Virginia, have established a special department to oversee their shorelines and other environmental treasures. See, e.g., Md. Code Ann. Natural Resources § 1-101; N.J. Stat. Ann., tit. 13 § 1D; N.Y. Environ. Conserv. § 3-0301. These state agencies are active, powerful government units. The State legislatures have just recently revised the enabling legislation in order to amplify their powers. See, e.g., Pa. Stat. Ann., tit. 71 §§ 510 et seq.; Va. Code Ann., tit. 10 §§ 187 et seq.; N.J. Stat. Ann., tit. 13 §§ 1D, 9A, 17, 18, 19; N.Y. Environ. Conserv. §§ 8-0101.

The vitality of these state agencies is indicated by their sweeping powers and broad functions. Most are instructed to gather data on the environment to provide a sound basis for planning. Md. Code Ann., Natural Resources § 1-101(b)(3); Pa. Stat. Ann. tit. 71 §§ 510-4(3), (6), 510-24; N.J. Stat. Ann., tit. 13, §§ 1D-9a, i., 19-16; N.Y. Environ. Conserv. § 25-0201. The state-wide agencies must also review and evaluate development plans within the state to assess their conformity with state environmental policies. Md. Code Ann., Natural Resources § 1-101(b)(1); N.J. Stat. Ann., tit. 13 § 1D-9f. A number of legislatures have set up local units for environmental oversight. Va. Code Ann., tit. 10 § 190; N.J. Stat. Ann., tit. 13 § 1H et seq.; N.Y. Environ. Conserv. §§ 15-1101; 47-0101. They require the state-wide agency to coordinate all the natural resource activities within the state. Md. Code Ann., Natural Resources §§ 1-101(b)(2), 1-103, 1-104; Pa. Stat. Ann., tit. 71, § 510-20; Va. Code Ann., tit. 10 § 193; N.J. Stat. Ann., tit. 13, §§ 1D-9f, g, 18-7, 18-8; N.Y. Environ. Conserv. §§ 3-0301, 25-0301.

The real bite in the environmental control exercised by the states is not in their monitoring functions, however, but in their licensing capacity. A number of states combine a concern for the most environmentally sensitive

of the state's resources, such as the New Jersey Pinelands or the wetlands of every state, with the zoning power. For instance, the Shore Erosion Control subtitle of Maryland's Natural Resources statute requires a developer to submit a grading and sediment control plan and to have it approved by the county or municipality before construction. § 8-1103. Similarly, the local soil conservation district must first approve any plan before a person "clears, grades, transports or otherwise disturbs land for any purpose." Id. § 1104. See also, Pa. Stat. Ann., tit. 71 § 510-20; Va. Code Ann., tit. 10 §§ 192, 193; N.J. Stat. Ann. tit. 13, §§ 1D-9j., K., 1D-30, 9A-2 (coastal wetlands), 9A-4, 19-5; N.Y. Environ. Conserv. §§ 8-0107, 25-0202, 25-0302, 25-0401. New York is so serious about its tidal wetlands that it has placed a moratorium on any alteration of this strategic area until it is inventoried and detailed state plans are developed for its protection. N.Y. Environ. Conserv. § 25-0202.

These controls on land development along the coast will mean that much of the onshore activity that will accompany OCS exploratory drilling and production will be regulated and subject to approval by the states. Without more coordination between the states and the federal government it is impossible to predict with accuracy the impact OCS development will have on the seashore. Certainly the information the Secretary had at the time of his decision to proceed with Sale No. 40. did not permit a sound judgment as to what the five states

affected by the Sale would sanction.

Some states have even addressed the problem of oil pollution directly. Maryland, for instance, regulates the transfer and storage of oil, § 8-1405(d) as well as oil and gas drilling. §§ 6-303, 6-305. See also Pa. Stat. Ann. tit. 71 §510-8(3) (oil drilling). It has also developed a program to respond to emergency oil spillage, § 8-1406, and a system of liability for those responsible for oil pollution. Id. §§ 8-1407, 1408, 1409, 1410, 1411.

Without an analysis of these state provisions and of the probable extent of state cooperation or opposition, a realistic appraisal of the impact of Sale 40 on environment is not possible. No meaningful discussion of this vital dimension of the environmental problem is contained in the final EIS OCS Sale No. 40 or the PDOD. Cf. Final EIS OCS Sale No. 40, Vol. I, pp. 42-49, 58-61, Vol. III, p. 154. This failure, even though it did not constitute a violation of the Management Act, did violate NEPA.

Even if the states do not prohibit oil pipelines, they may restrict their point of entry, requiring a landfall, for example, at the industrialized northern section of the New Jersey Coast or at the refinery areas in the tristate New Jersey-Delaware-Pennsylvania region. Such a decision would require a reconsideration of whether tracts other than those proposed in Sale 40

should be leased. It might, for example, improve the revenue from lease sales, decrease pipeline lengths, and reduce environmetal impacts if tracts nearer the allowable pipeline landfalls were utilized in this first leasing.

If the assumption by the Secretary that pipelines will transport the oil in case of a large strike would have been different had the state situation been brought home to him, then the entire NEPA decision-making process is invalidated. Misplaced reliance on such a material proposition raises a question as to the adequacy of the NEPA documents and the reliability of the Secretary's decision.

The adequacy of an impact statement must be considered in light of its purpose: "The primary purpose of the impact statement is to compel federal agencies to give serious weight to environmental factors in making discretionary choices." Monroe County Conservation Council, Inc. v. Volpe, 472 F. 2d 693, 697 (2d Cir, 1972). NEPA is "at the very least, 'an environmental full disclosure law.'" Id. As this Circuit stated in NRDC v. Callaway, 524 F. 2d 79, 88, (2d Cir. 1975):

> NEPA was, in large measure, an attempt by Congress to instill in the environmental decision-making process a more comprehensive approach so that long-term and cumulative effects of small and unrelated decisions could be recognized, evaluated and either avoided, mitigated, or accepted as the price to be paid for the major federal action under consideration.

Full disclosure of possible impacts was recognized as a necessary step in affecting such a change in the decision-making process. Thus Section 102(2)(C)(i) and (ii) of NEPA require that the environmental statement be "a detailed statement" on the "environmental effects which cannot be avoided."

If the NEPA documents and the PDOD indicate that the Secretary was not properly informed about significant possible impacts of Sale No. 40, then his decision cannot stand. NEPA was not intended to be a formal paper shuffling exercise. Rather, it was enacted so that decision-makers would be affected by the data accumulated under its mandate.

Section 102(1) of NEPA provides that the "public laws of the United States shall be interpreted and administered in accordance with the policies set forth" in NEPA. § 4332(1) (emphasis added). The "duty NEPA imposes upon the agency to consider environmental factors" may "not be shunted aside in the bureaucratic shuffle." Flint Ridge Development Company v. The Scenic Rivers Association of Oklahoma, _____U.S._____,_____, 96 S.Ct. 2430, 2437,_____ L.Ed. 2d_____,_____ (1976).

Clearly, NEPA was not drafted as purely a procedural

exercise for federal agencies. According to NEPA's sponsor in the Senate, the Act was designed to be a statement of "authority and direction which will permit the policies set forth in the act to become a real working part of all the activities of all Federal agencies and programs." 115 Cong. Rec. 29087 (Oct. 8, 1969) (emphasis supplied). The legislative history of the Act is replete with references to the concept of NEPA's substantive nature. It established "action-forcing procedures" which would help to insure that the policies of the Act were "implemented". 115 Cong. Rec. 29085 (Oct. 9, 1969). The distinction between mere procedural compliance and substantive action was made clear.

> To...establish action-forcing procedures which will help insure that the policies enunciated in § 101 are implemented, § 102 authorizes and directs that the existing body of Federal law, regulations, and policy be interpreted and administered to the fullest extent possible in accordance with the policies set forth in this act. It further establishes a number of operating procedures to be followed by all Federal agencies.

S. Rep. No. 91-296, 91st Cong. 1st Sess. at 20, 21 (1969).

The courts have underscored the same distinction. For example, the Eighth Circuit declared:

> The language of NEPA, as well as its legislative history, make it clear that the Act is more than an environmental full-disclosure law. NEPA was intended to effect substantive changes in decision-making...

> The procedures included in §102 of NEPA are not ends in themselves. They are intended to be action forcing [citation omitted]. The unequivocal intent of NEPA is to require agencies to consider and give effect to the environmental goals set forth in the Act, not just to file detailed impact studies which will fill governmental archives.

Environmental Defense Fund v. Corps. of Eng., 470 F. 2d 289 (8th Cir.), cert. denied 412 U.S. 931 (1972) (emphasis supplied).

> What possible purpose could there be in the Section 102(2)(c) requirement (that the "detailed statement" accompany proposals through the agency review processes) if accompany means no more than physical proximity ... What possible purpose could there be in requiring the 'detailed statement' to be before hearing boards; if the boards are free to ignore entirely the contents of the statement?

Calvert Cliffs' Coordinating Committee v. Atomic Energy Commission, 449 F. 2d 1109, 1117 (D.C. Cir., 1971). See also Silva v. Romney, 473 F. 2d 287, 292 (1st Cir., 1973); Greene County Planning Board v. Federal Power Commission, 455 F. 2d 412 (2d Cir.), cert. denied, 409 U.S. 849 (1972); Environmental Defense Fund v. Froehlke, 473 F. 2d 346 (8th Cir., 1972); Jones v. Lynn, 477 F. 2d 885 (1st Cir., 1973).

If the Secretary's decision on Sale No. 40 was based on a material error or assumption regarding the environmental impact, then NEPA requires rescission of the decision. Reaching this conclusion does not involve the court in deciding what decision the Secretary may make. It may very well be that the Secretary will decide to proceed with leasing even if the oil must be transported by tanker. If the Secretary had the correct data necessary to act when he reached his decision, then it would stand. But, when it can be shown that an assumption the Secretary considered material to the decision is invalid or that available information needed for informed decision was not properly presented, then the decision must be reconsidered.

The hearings in this court on the NEPA statements, suggested a number of respects in which they can be improved. Since the Secretary will be enjoined from holding lease Sale No. 40 on August 17, 1976, the Department of Interior will have the opportunity to revise its NEPA documents, in light of the testimony in the hearing before this court.

III Appropriateness of Injunctive Relief

Plaintiffs have demonstrated that they are entitled to preliminary injunctive relief. There is a substantial likelihood that they will succeed on the merits and that they will suffer irreparable harm if the injunction is not granted at this time. See, e.g., National Association of Letter Carriers v. Sombretto, 449 F. 2d 915 (2d Cir. 1971).

In all but a few extraordinary cases, where NEPA was violated the courts have enjoined the actions in question. See, Anderson, NEPA in the Courts 239 (1973): Comment, 60 Iowa Law Rev. 362, 366, 373 (1974). There is a substantial body of law which holds that the violation of the NEPA itself constitutes sufficient irreparable harm to require issuance of a preliminary injunction. This harm lies in the fact that, without the injunction, major federal action significantly affecting the environment will continue without prior compliance with the careful and informed decision-making process required by NEPA. See, Scherr v. Volpe, 466 F. 2d 1027, 1034 (7th Cir. 1972); Environmental Defense Fund v. TVA, 468 F. 2d 1164, 1184 (6th Cir. 1972); Izaak Walton League of America v. Schlesinger, 337 F. Supp. 287, 295 (D. D.C. 1971).

Under any standard of harm, plaintiffs have demonstrated more than the required possible irreparable harm. If the Mid-Atlantic Lease Sale is held on August 17, 1976, and leases are awarded, the lessees will be able to proceed with production as soon as feasible since the leases involved in the August 17 sale are both exploration and production leases. Oil spills and destruction of biota are possible once production begins.

It is entirely unrealistic to suggest that after lease, production can be entirely blocked since this would constitute an illegal taking without compensation. See Union Oil Company of California v. Morton, 512 F.2d 743 (9th Cir. 1975). In any event, once a strike is made many of the corollary activities will begin, regardless of whether or not the states or federal government have approved production plans. These include siting, construction and operation of platform yards, pipe coating plants and other installations, and land acquisition for new or expanded refineries. This commitment of resources is of the precise sort that should not take place before compliance with NEPA.

Courts have enjoined similar federal activites. Thus in Natural Resources Defense Council, Inc. v. Morton, 485 F. 2d 827 (D.C. Cir. 1972), where an inadequate environmental impact statement was filed, the District of Columbia Circuit affirmed a preliminary injunction which halted the sale of oil and gas leases of some 80 tracts

on the Outer Continental Shelf comprising almost 380,000 acres. The Court did so notwithstanding a national energy crisis and even though the sale was responsive to a directive of the President. 458 F. 2d at 829, 830, 835.

The Court of Appeals for this Circuit in a recent case, did not hesitate to prohibit the Nuclear Regulatory Commission licensing of commercial transport of plutonium in the recycle process until a full environmental impact statement nad been filed. It did so even though it took note that the purpose of the Commission was to develop new sources of energy. Natural Resources Defense Council, Inc. v. NRC, _____ F. 2d _____, Docket Nos. 75-4276, 75-4278 (2d Cir. May 26, 1976).

Even activities involved with national defense have been enjoined. In Natural Resources Defense Council v. Callaway, et al., 524 F. 2d 79 (2d Cir. 1975), the Second Circuit directed that the United States Navy and Army be enjoined from further dumping of dredged spoil from the Thames River in Long Island Sound pending publication of an adequate NEPA statement. The dredging and dumping project was being carried out to allow the Navy's introduction and deployment of a new class of attack submarines and the majority's directive would delay the Navy's program. Id. at 97. Accord, People of Enewetak v. Laird, 353 F. Supp. 811 (D. Hawaii, 1973).

The damage, if any, to the federal government from

a preliminary injunction would be slight. All expert opinion is agreed that in the foreseeable future the value of hydrocarbons on the OCS can only increase. Moreover, enjoining the August 17 sale does not prevent the government from exploring the OCS oil and gas potential, either by itself or through leasing or contracting of the exploration work. Most expert opinion on the lead time between exploration and production estimates that there will be three years of exploration at a minimum before production activity can begin. Therefore a delay in the sale on August 17 of exploration and production leases will only mean a delay in the ultimate date of production if the government chooses not to pursue one of its other options. As the final EIS OCS Sale No. 40 puts it:

> development activities would not commence until at least three years after active exploratory drilling has started. This timeframe, as presently proposed, would indicate that development activities would probably not commence until sometime in 1979 at the earliest.

Vol. III, p. 61. See also Vol II, pp. 517.

Loss of possible profits by the individual defendants is not enough to warrant denial of NEPA relief. If the Secretary decides, after further review, to proceed, expenditures by National Ocean Industries Association members to prepare for bidding on the leases will be largely recouped.

It is admitted that:

> Another result of delaying the proposed sale until after coastal zone management plans are implemented would be to allow a longer period of time for coordination both between Federal agencies and the states and among the states themselves. Efforts are presently underway, under the general aegis of the Mid-Atlantic Governors Coastal Resources Council, to study potential OCS-related developments from a regional perspective. Delay of the sale would allow a longer time for the development of a coordinated regional response and/or planning for OCS-related development. If state coastal zone plans contain methods for implementing any planning or guidelines developed, better planning decisions might result. In addition, the additional time might allow for more information to be generated or disseminated, allowing for more informed decision making.

Final EIS OCS Sale No. 40, Vol. 2 p. 519. See also Vol. III, pp. 62-64; Vol. II, pp. 584-590.

Finally, considerations of state law and policy as it affects the Sale 40 program can be accomplished speedily. If the Secretary decides, after considering this factor in the light of all other NEPA materials, to proceed with Sale 40, he may do so.

In addition to seeking to enjoin the Secretary of the Interior from holding the outer continental shelf oil and gas lease sale for the Mid-Atlantic Ocean scheduled for August 17, 1976, plaintiffs are seeking to enjoin the entire accelerated leasing program for the OCS that was adopted by the Secretary of the Interior on September 29,

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1975. No basis for enjoining other OCS sales has been shown. Each such sale can be separately considered at the time it arises. See, e.g., Alaska v. Kleppe, 76-0368 (D.D.C. 1976) (denying a preliminary injunction in Sale No. 39 involving OCS off Alaska); People of State of California ex rel. Younger v. Morton, 404 F. Supp. 26 (C.D. California 1975) (rejecting challenge to decision to accelerate OCS leasing). When several sales will occur in the same area the "cumulative or synergistic environmental impact upon a region" needs to be considered. Kleppe v. Sierra Club, ____U.S.____,_____,_____ Sup. Ct. _____,_____, _____ L. Ed. 2d_____,_____,44 U.S.L.W. 5104, 5109 (1976). Thus, future site specific EIS's for the Atlantic will consider the impact of proposed sales together with the oil and gas development in the Sale 40 region. This is the Secretary's intention. Final EIS OCS Sale No. 40, Vol. III, p. 40.

III Conclusion

A preliminary injunction preventing Sale 40 on August 17 is granted pending the decision on applications for a permanent injunction.

A preliminary injunction preventing all future OCS leasing is denied.

The parties shall move as promptly as possible to obtain a final resolution of the application for a

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permanent injunction.

So ordered.

U.S.D.J.

Dated: Brooklyn, New York
August 13, 1976.

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APPENDIX

SELECTED MID-ATLANTIC COASTAL STATE STATUTES AFFECTING OUTER CONTINENTAL SHELF OIL AND GAS DEVELOPMENT

Delaware

Del. Code Ann., Title 7

PART VII

WATER AND AIR RESOURCES

CHAPTER 60. DIVISION OF ENVIRONMENTAL CONTROL

Subchapter I. General Provisions

§ 6001. Findings, policy and purpose.

(a) FINDINGS. - The General Assembly hereby makes the following findings concerning the development, utilization, and control of the land, water, underwater and air resources of the State:

Del. (cont.)

(1) The development, utilization, and control of the land, water, underwater and air resources of the State are vital to the people in order to assure adequate supplies for domestic, industrial, power, agricultural, recreational and other beneficial uses;

(2) The development and utilization of the land, water, underwater and air resources must be regulated to ensure that the land, water, underwater and air resources of the State are employed for beneficial uses and not wasted;

(3) The regulation of the development and utilization of the land, water, underwater and air resources of the State is essential to protect beneficial uses and to assure adequate resources for the future;

(4) The land, water, underwater and air resources of the State must be protected and conserved to assure continued availability for public recreational purposes and for the conservation of wildlife and aquatic life;

(5) The land, water, underwater and air resources of the State must be protected from pollution in the interest of the health and safety of the public;

(6) The land, water, underwater and air resources of the State can best be utilized, conserved, and protected if utilization thereof is restricted to beneficial uses and controlled by a state agency responsible for proper development and utilization of the land, water, underwater and air resources of the State;

(7) Planning for the development and utilization of the land, water, underwater, and air resources is essential in view of population growth and the expanding economic activity within the State.

(b) *Policy.* — In view of the rapid growth of population, agriculture, industry, and other economic activities, the land, water and air resources of the State must be protected, conserved, and controlled to assure their reasonable and beneficial use in the interest of the people of the State. Therefore, it is the policy of this State that:

(1) The development, utilization, and control of all the land, water, underwater and air resources shall be directed to make the maximum contribution to the public benefit; and

(2) The State, in the exercise of its sovereign power, acting through the Department should control the development and use of the land, water, underwater and air resources of the State so as to effectuate full utilization, conservation, and protection of the water and air resources of the State.

(c) *Purpose.* — It is the purpose of this chapter to effectuate state policy by providing for:

(1) A program for the management of the land, water, underwater and air resources of the State so directed as to make the maximum contribution to the interests of the people of this State;

(2) A program for the control of pollution of the land, water, underwater and air resources of the State to protect the public health, safety and welfare;

Del. (cont.)

(3)

(3) A program for the protection and conservation of the land, water, underwater and air resources of the State, for public recreational purposes, and for the conservation of wildlife and aquatic life;

(4) A program for conducting and fostering research and development in order to encourage maximum utilization of the land, water, underwater and air resources of the State;

(5) A program for cooperating with federal, interstate, state, local governmental agencies and utilities in the development and utilization of land, water, underwater and air resources;

(6) A program for improved solid waste storage, collection, transportation, processing and disposal by providing that such activities may henceforth be conducted only in an environmentally acceptable manner pursuant to a permit obtained from the Department.'

§ 6003. Permit — Required.

(a) No person shall, without first having obtained a permit from the Secretary, undertake any activity:

(1) In a way which may cause or contribute to the discharge of an air contaminant; or

(2) In a way which may cause or contribute to discharge of a pollutant into any surface or ground water; or

(3) In a way which may cause or contribute to withdrawal of ground water or surface water or both; or

(4) In a way which may cause or contribute to the collection, transportation, storage, processing or disposal of solid wastes; or

(5) To construct, maintain or operate a pipeline system including any appurtenances such as a storage tank or pump station; or

(6) To construct any water facility; or

(7) To plan or construct any highway corridor which may cause or contribute to the discharge of an air contaminant or discharge of pollutants into any surface or ground water.

(b) No person shall, without first having obtained a permit from the Secretary, construct, install, replace, modify or use any equipment or device or other article:

(1) Which may cause or contribute to the discharge of an air contaminant; or

(2) Which may cause or contribute to the discharge of a pollutant into any surface or ground water; or

(3) Which is intended to prevent or control the emission of air contaminants into the atmosphere or pollutants into surface or ground waters; or

(4) Which is intended to withdraw ground water or surface water for treatment and supply; or

(5) For disposal of solid waste.

(c) The Secretary shall grant or deny a permit required by subsections (a) or (b) of this section in accordance with duly promulgated regulations and no permit

may be granted unless the county or municipality having jurisdiction has first approved the activity by zoning procedures provided by law.

(d) A county which requests authority to administer a system for granting or denying a septic tank permit, and which satisfies the Secretary that it has the capability, including but not limited to regulations and enforcement authority, may be authorized by the Secretary, for a term stated, to administer such a system for him within that county. In the event of such authorization, an applicant for a septic tank permit in that county shall not be bound by subsections (a) and (b) of this section.

(e) The Secretary may, after public hearings, publish a list of activities which do not require a permit.

§ 6028. Report of a discharge of a pollutant or an air contaminant.

Any person who causes or contributes to the discharge of an air contaminant into air or a pollutant into surface water, ground water or on land, or disposal of solid wastes, either in excess of any condition specified in any permit duly issued by the Department or in the absence of a permit shall report such an incident to the Department. Any such person who fails to report such discharge shall, upon conviction, be fined not less than $500 nor more than $5,000 or imprisoned for 6 months, or both. The Superior Court shall have jurisdiction of offenses under this section

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Del. (cont.)

CHAPTER 61. UNDERWATER LANDS

Subchapter I. Minerals in Submerged Lands

§ 6101. Definitions.

The provisions of this subchapter shall apply to all lands located within the boundaries of this State, except that sections relating to fees, royalties or rights to lease shall be applicable only to lands owned by this State. Unless the context requires otherwise:

(1) "Secretary" means the Secretary of the Department of Natural Resources and Environmental Control, or, if so designated pursuant to § 6140 of this title, the State Geologist.

Del. (cont.)

(2) "Filled lands" includes tide and submerged lands reclaimed artificially through raising such lands above the highest probable elevation of the tides to form dry land, by placement of a fill or deposit of earth, rock, sand or other solid imperishable material.

(3) "Lease" means a mineral lease issued pursuant to the provisions of this subchapter.

(4) "Person" in addition to the meanings set forth in § 302 of Title 1, includes quasi-public corporations, political subdivisions and governmental agencies and instrumentalities.

(5) "Submerged lands" means lands lying below the line of mean low tide in the beds of all tidal waters within the boundaries of this State established before or after July 1, 1966.

(6) "Structure" means any construction works, including but not limited to derricks, pipelines, lines for the transmission and distribution of electricity, telephone lines, wharves, piers, slips, warehouses and units designed to act as groins, jetties, seawalls, breakwaters or bulkheads.

(7) "Tidelands" means lands lying between the line of mean high water and the line of mean low water.

(8) "Gas" means all natural gas and all other fluid hydrocarbons not defined as oil in subsection (9) of this section, including condensate originally in the gaseous phase in the reservoir.

(9) "Oil" means crude petroleum oil and all other hydrocarbons, regardless of gravity, which are produced in liquid form by ordinary production methods, but does not include liquid hydrocarbons that were originally in a gaseous phase in the reservoir.

(10) "Mineral" means any natural inorganic substance with definite chemical and physical properties which is present in, or at the bottom of a body of water, or anywhere within the earth's crust.

§ 6102. Jurisdiction to lease.

(a) The Secretary and the Governor have exclusive jurisdiction to lease for mineral exploration and exploitation all ungranted submerged tidelands owned by this State, whether within or beyond the boundaries of this State, acquired by this State before or after July 1, 1966, (1) by quitclaim, cession, grant, contract or otherwise, or (2) by any other means.

(b) All jurisdiction and authority to lease for mineral exploration or exploitation remaining in the State over submerged lands as to which grants have been or may be made is vested in the Secretary and the Governor.

(c) The Secretary shall administer and control all lands described in subsection (a) of this section, and may lease such lands and tidelands and dispose of oil, gas, sulphur and other minerals under such lands and tidelands in the manner prescribed by this subchapter.

(d) Notwithstanding any other provisions of this subchapter, the Secretary may not permit any interference, other than temporary interference, with the surface of the Atlantic shore. It may, however, grant easements for mineral exploration and exploitation underlying that part of the surface of the Atlantic shore owned by the State at such times and at such places as the Secretary finds necessary to permit the extraction and transportation of oil, gas, sulphur or other minerals from State, federal or private lands; and in addition the Secretary may issue oil and gas leases underlying the Atlantic shore under the same terms and conditions as provided in this subchapter.

(e) The Secretary shall have no authority to lease lands administered by the Department of Natural Resources and Environmental Control./

§ 6118. Restoration of visible lands to original condition.

Upon any partial or total termination, surrender or forfeiture of its permit or lease, the Secretary may require that the permittee or lessee, within a reasonable time, restore that portion of the premises that is visible at extreme low tide, to substantially its original condition.

Del. (cont.)

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§ 6119. Pollution and contamination prohibited.

(a) Avoidable pollution or avoidable contamination of the ocean and of the waters covering submerged lands, avoidable pollution or avoidable contamination of the beaches or land underlying the ocean or waters covering submerged lands, or any substantial impairment of and interference with the enjoyment and use thereof, including but not limited to bathing, boating, fishing, fish and wildlife production, and navigation, shall be prohibited and the lessee shall exercise a high degree of care to provide that no oil, tar, residuary product of oil or any refuse of any kind from any well or works shall be permitted to be deposited on or pass into the waters of the ocean, any bay or inlet thereof, or any other waters covering submerged lands; provided, however, that this section does not apply to the deposit on, or passing into, such water or waters not containing any hydrocarbons or vegetable or animal matter.

(b) For the purposes of this section, "avoidable pollution" or "avoidable contamination" means pollution or contamination arising from:

(1) The acts or omissions of the lessee or its officers, employees or agents, or

(2) Events that could have been prevented by the lessee or its officers, employees or agents through the exercise of a high degree of care.

CHAPTER 66. WETLANDS

§ 6601. Short title.

This chapter shall be known and may be cited as "The Wetlands Act."

§ 6602. Purpose.

It is declared that much of the wetlands of this State have been lost or despoiled by unregulated dredging, dumping, filling and like activities and that the remaining wetlands of this State are in jeopardy of being lost or despoiled by these and other activities; that such loss or despoliation will adversely affect, if not entirely eliminate, the value of such wetlands as sources of nutrients to finfish, crustacea and shellfish of significant economic value; that such loss or despoliation will destroy such wetlands as habitats for plants and animals of significant economic and ecological value and will eliminate or substantially reduce marine commerce, recreation and aesthetic enjoyment; that such loss or despoliation will, in most cases, disturb the natural ability of wetlands to reduce flood damage and adversely affect the public health and welfare; that such loss or despoliation will substantially reduce the capacity of such wetlands to absorb silt and will thus result in the increased silting of channels and harbor areas to the detriment of free navigation. It is hereby determined that the coastal areas of Delaware are the most critical areas for the present and future quality of life in the State and that the preservation of the coastal wetlands is crucial to the protection of the natural environment of these coastal areas. Therefore, it is declared to be the public policy of this State to preserve and protect the productive public and private wetlands and to prevent their despoliation and destruction consistent with the historic right of private ownership of lands

§ 6603. Definitions.

(1) "Activity" means any dredging, draining, filling, bulkheading, construction of any kind, including but not limited to, construction of a pier, jetty, breakwater, boat ramp, or mining, drilling or excavation.

Del. (cont.)

(2) "Authorized activity" includes any activity allowed after receipt of a permit from the Department.

(3) "Board" means the Wetlands Appeals Board.

(4) "Department" means the Department of Natural Resources and Environmental Control.

(5) "Person" means any individual, group of individuals, contractor, supplier, installer, user, owner, partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, administrative agency, public or quasi-public corporation or body, or any other legal entity, or its legal representative, agent or assignee.

(6) "Preexisting use" means any use of land, or water, or subaqueous lands, or of a structure or any combination of these which was lawfully in existence prior to and in active use on July 17, 1973, or any temporary or seasonal use in active use for 10 consecutive weeks within the last 12 months previous to July 17, 1973.

(7) "Secretary" means the Secretary of the Department of Natural Resources and Environmental Control.

(8) "Wetlands" shall mean those lands above the mean low water elevation including any bank, marsh, swamp, meadow, flat or other low land subject to tidal action in the State along the Delaware Bay and Delaware River, Indian River Bay, Rehoboth Bay, Little and Big Assawoman Bays, the coastal inland waterways, or along any inlet, estuary or tributary waterway or any portion thereof, including those areas which are now or in this century have been connected to tidal waters, whose surface is at or below an elevation of 2 feet above local mean high water, and upon which may grow or is capable of growing any but not necessarily all of the following plants:

Eelgrass (Zostera marina), Wedgeon Grass (Ruppia maritima), Sago Pondweed (Potamogeton pectinatus), Saltmarsh Cordgrass (Spartina alterniflora), Saltmarsh Grass (Spartina cynosuroides), Saltmarsh Hay (Spartina patens), Spike Grass (Distichlis spicata), Black Grass (Juncus gerardii), Switch Grass (Panicum virgatum), Three Square Rush (Scirpus americanus), Sea Lavendar (Limomium carolinianum), Seaside Goldenrod (Solidago sempervirens), Sea Blite (Suaeda maritima), Sea Blite (Suaeda linearis), Perennial Glasswort (Salicornia virginica), Dwarf Glasswort (Salicornia bigelovii), Samphire (Salicornia europaea), Marsh Aster (Aster tenuifolius), Saltmarsh Fleabane (Pluchea purpurascens var. succulenta), Mock Bishop's Weed (Ptilimnium capillaceum), Seaside Plantain (Plantage oliganthos), Orach (Atriplex patula var. hastata), March Elder (Iva frutescens var. oraria), Goundsel Bush (Baccharis halmifolia), Bladder Wrach (Fucus vesiculosis), Swamp Rose Mallow, Seaside Hollyhock or Marsh Mallow (Hibiscus palustris), Torrey Rush (Scirpus torreyi), Narrow-leaved Cattail (Typha angustifolia), and Broad-leaved Cattail (T. latifolia) and those lands not currently used for agricultural purposes containing 400 acres or more of contiguous nontidal swamp, bog, muck, or marsh exclusive of narrow stream valleys where fresh water stands most, if not all, of the time due to high

water table, which contribute significantly to ground water recharge, and which would require intensive artificial drainage using equipment such as pumping stations, drain fields or ditches for the production of agricultural crops.

§ 6604. Permit required.

(a) Any activity in the wetlands requires a permit from the Department except the activity or activities exempted by this chapter and no permit may be granted unless the county or municipality having jurisdiction has first approved the activity in question by zoning procedures provided by law.

(b) The Secretary shall consider the following factors prior to issuance of any permit:

(1) Environmental impact, including but not limited to, likely destruction of wetlands and flora and fauna; impact of the site preparation on tidal ebb and flow and the otherwise normal drainage of the area in question, especially as it relates to flood control; impact of the site preparation and proposed activity on land erosion; effect of site preparation and proposed activity on the quality and quantity of tidal waters, surface, ground and subsurface water resources and other resources;

(2) Aesthetic effect, such as the impact on scenic beauty of the surrounding area;

(3) The number and type of public and private supporting facilities required and the impact of such facilities on all factors listed in this subsection;

(4) Effect on neighboring land uses, including but not limited to, public access to tidal waters, recreational areas and effect on adjacent residential and agricultural areas;

(5) State, county and municipal comprehensive plans for the development and/or conservation of their areas of jurisdiction;

(6) Economic effect, including the number of jobs created and the income which will be generated by the wages and salaries of the jobs in relation to the amount of land required, and the amount of tax revenues potentially accruing to the state, county and local governments.

(c) The Secretary may require a bond in an amount and with surety and conditions sufficient to secure compliance with the conditions and limitations, if any, set forth in the permit. The particular amount and the particular conditions of the bond required shall be consistent with and in furtherance of the purposes of this chapter. The Secretary shall state for the record, the basis for the bonding requirements imposed with each permit granted. In the event of a breach of any condition of any such bond, the Attorney General may institute an action in Superior Court upon such bond and prosecute the same to judgment and execution.

CHAPTER 70. COASTAL ZONE ACT

§ 7001. Purpose.

It is hereby determined that the coastal areas of Delaware are the most critical areas for the future of the State in terms of the quality of life in the State. It is, therefore, the declared public policy of the State to control the location, extent and type of industrial development in Delaware's coastal areas. In so doing, the State can better protect the natural environment of its bay and coastal areas and safeguard their use primarily for recreation and tourism. Specifically, this chapter seeks to prohibit entirely the construction of new heavy industry in its coastal areas, which industry is determined to be incompatible with the protection of that natural environment in those areas. While it is the declared public policy of the State to encourage the introduction of new industry into Delaware, the protection of the environment, natural beauty and recreation potential of the State is also of great concern. In order to strike the correct balance between these two policies, careful planning based on a thorough understanding of Delaware's potential and her needs is required. Therefore, control of industrial development other than that of heavy industry in the coastal zone of Delaware through a permit system at the state level is called for. It is further determined that offshore bulk product transfer facilities represent a significant danger of pollution to the coastal zone and generate pressure for the construction of industrial plants in the coastal zone, which construction is declared to be against public policy. For these reasons, prohibition against bulk product transfer facilities in the coastal zone is deemed imperative. (7 Del. C. 1953, § 7001; 58 Del. Laws, c. 175.)

§ 7002. Definitions.

(a) "The coastal zone" is defined as all that area of the State, whether land, water or subaqueous land between the territorial limits of Delaware in the Delaware River, Delaware Bay and Atlantic Ocean, and a line formed by certain Delaware highways and roads as follows:

(13)

Del. (cont.)

Beginning at the Delaware-Pennsylvania line at a place where said line intersects U.S. Route 13; thence southward along the said U.S. Route 13 until it intersects the right-of-way of U.S. Route I-495; thence along said I-495 right-of-way until the said I-495 right-of-way intersects Delaware Route 9 south of Wilmington; thence along said Delaware Route 9 to the point of its intersection with Delaware Route 273; thence along said Delaware Route 273 to U.S. 13; thence along U.S. 13 to Maintenance Road 409; thence along Maintenance Road 409 to Delaware Road 71; thence along Delaware Road 71 to its intersection with Delaware Road 54; thence along Delaware Road 54 to Delaware Road 896; thence along Delaware Road 896 to Maintenance Road 396; thence along Maintenance Road 396 to Maintenance Road 398; thence along Maintenance Road 398 to the Maryland state line; thence southward along the Maryland state line to Maintenance Road 433; thence along Maintenance Road 433 to Maintenance Road 63; thence along Maintenance Road 63 to Maintenance Road 412; thence along Maintenance Road 412 to U.S. 13; thence along U.S. 13 to Delaware 299 at Odessa; thence along Delaware Route 299 to its intersection with Delaware Route 9; thence along Delaware Route 9 to U.S. 113; thence along U.S. Route 113 to Maintenance Road 8A; thence along Maintenance Road 8A to Maintenance Road 7 to the point of its intersection with Delaware Route 14; thence along Delaware Route 14 to Delaware Route 24; thence along Delaware Route 24 to Maintenance Road 331; thence along Maintenance Road 331 to Maintenance Road 334; thence along Maintenance Road 334 to Delaware Route 26; thence along Delaware Route 26 to Maintenance Road 365; thence along Maintenance Road 365 to Maintenance Road 84; thence along Maintenance Road 84 to Maintenance Road 384; thence along Maintenance Road 384 to Maintenance Road 382A; thence along Maintenance Road 382A to Maintenance Road 389; thence along Maintenance Road 389 to Maintenance Road 58; thence along Maintenance Road 58 to Maintenance Road 395; thence along Maintenance Road 395 to the Maryland state line.

(b) "Nonconforming use" means a use, whether of land or of a structure, which does not comply with the applicable use provisions in this chapter where such use was lawfully in existence and in active use prior to June 28, 1971.

(c) "Environmental impact statement" means a detailed description as prescribed by the State Planning Office of the effect of the proposed use on the immediate and surrounding environment and natural resources such as water quality, fisheries, wildlife and the aesthetics of the region.

(d) "Manufacturing" means the mechanical or chemical transformation of organic or inorganic substances into new products, characteristically using power-driven machines and materials handling equipment, and including establishments engaged in assembling component parts of manufactured products, provided the new product is not a structure or other fixed improvement.

(e) "Heavy industry use" means a use characteristically involving more than 20 acres, and characteristically employing some but not necessarily all of such

equipment such as, but not limited to, smokestacks, tanks, distillation or reaction columns, chemical processing equipment, scribbing towers, pickling equipment, and waste-treatment lagoons; which industry, although conceivably operable without polluting the environment, has the potential to pollute when equipment malfunctions or human error occurs. Examples of heavy industry are oil refineries, basic steel manufacturing plants, basic cellulosic pulp-paper mills, and chemical plants such as petrochemical complexes. Generic examples of uses not included in the definition of "heavy industry" are such uses as garment factories, automobile assembly plants and jewelry and leather goods manufacturing establishments.

(f) "Bulk product transfer facility" means any port or dock facility, whether an artificial island or attached to shore by any means, for the transfer of bulk quantities of any substance from vessel to onshore facility or vice versa. Not included in this definition is a docking facility or pier for a single industrial or manufacturing facility for which a permit is granted or which is a nonconforming use. Likewise, docking facilities for the Port of Wilmington are not included in this definition.

(g) "Person" shall include, but not be limited to, any individual, group of individuals, contractor, supplier, installer, user, owner, partnership, firm, company, corporation, association, joint-stock company, trust, estate, political subdivision, administrative agency, public or quasi-public corporation or body, or any other legal entity, or its legal representative, agent, or assignee.

(h) "Board" shall mean the Coastal Zone Industrial Control Board

§ 7003. Uses absolutely prohibited in the coastal zone.

Heavy industry uses of any kind not in operation on June 28, 1971, are prohibited in the coastal zone and no permits may be issued therefor. In addition, offshore gas, liquid, or solid bulk product transfer facilities which are not in operation on June 28, 1971, are prohibited in the coastal zone, and no permit may be issued therefor. Provided, that this section shall not apply to public sewage treatment or recycling plants.

§ 7004. Uses allowed by permit only; nonconforming uses.

(a) Except for heavy industry uses, as defined in § 7002 of this chapter, manufacturing uses not in existence and in active use on June 28, 1971, are allowed in the coastal zone by permit only, as provided for under this section. Any nonconforming use in existence and in active use on June 28, 1971, shall not be prohibited by this chapter. All expansion or extension of nonconforming manufacturing uses, as defined herein, and all expansion or extension of uses

for which a permit is issued pursuant to this chapter, are likewise allowed only by permit. Provided, that no permit may be granted under this chapter unless the county or municipality having jurisdiction has first approved the use in question by zoning procedures provided by law.

(b) In passing on permit requests, the State Planner and the State Coastal Zone Industrial Control Board shall consider the following factors:

(1) Environmental impact, including but not limited to, probable air and water pollution likely to be generated by the proposed use under normal operating conditions as well as during mechanical malfunction and human error; likely destruction of wetlands and flora and fauna; impact of site preparation on drainage of the area in question, especially as it relates to flood control; impact of site preparation and facility operations on land erosion; effect of site preparation and facility operations on the quality and quantity of surface, ground and subsurface water resources, such as the use of water for processing, cooling, effluent removal, and other purposes; in addition, but not limited to, likelihood of generation of glare, heat, noise, vibration, radiation, electromagnetic interference and obnoxious odors.

(2) Economic effect, including the number of jobs created and the income which will be generated by the wages and salaries of these jobs in relation to the amount of land required, and the amount of tax revenues potentially accruing to state and local government.

(3) Aesthetic effect, such as impact on scenic beauty of the surrounding area.

(4) Number and type of supporting facilities required and the impact of such facilities on all factors listed in this subsection.

(5) Effect on neighboring land uses including, but not limited to, effect on public access to tidal waters, effect on recreational areas, and effect on adjacent residential and agricultural areas.

(6) County and municipal comprehensive plans for the development and/or conservation of their areas of jurisdiction.

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TITLE 1.

DEPARTMENT OF NATURAL RESOURCES.

Subtitle 1. Organization, Powers, and Duties of Department.

§ 1-101. Department created and continued; Secretary of Natural Resources; counsel; legislative intent.

(a) *Department created and continued; Secretary head of department; appointment and qualifications of Secretary.* — The Department of Natural Resources of Maryland is created and continued as a principal department of the state government. The head of the department is the Secretary of Natural Resources, who shall be appointed by the Governor with the advice and consent of the Senate. The Secretary shall be an individual with administrative ability, whose reputation and experience demonstrate his interest in the field of natural resources.

(b) *Policy relating to natural resources, plans, information, and activities.* — It is the intention of the General Assembly, in providing for a department of natural resources, to establish a state department which, in addition to its other functions, shall:

(1) Review and evaluate all natural resources policies, plans, programs, and practices of state, county, regional, and federal agencies and institutions;

(2) Coordinate natural resources activities within the state;

(3) Be a center for collecting and organizing information on natural resources for the guidance of the Governor and the General Assembly; and

(4) Otherwise unify, coordinate, and promulgate policies, plans, programs, and practices which insure the preservation, development, wise use, and enjoyment of all the natural resources for greatest benefits to the state and its citizens. . . .

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Md. (cont.)

§ 1-103. Plans, proposals, and projects; budgets; federal funds and assistance.

(a) *Secretary's responsibility over plans, proposals, and projects.* — The Secretary is responsible for the coordination and direction of comprehensive planning in the area of natural resources. In addition, he shall be apprised in full of plans, proposals, projects, and programs of the units within the department, and may approve, disapprove, or modify any plan, proposal, project, or program, if that action approving, disapproving, or modifying plans, proposals, projects, or programs is not inconsistent with law.

(b) *Responsibility for budgets.* — The Secretary is responsible for the budget of his office and for the budgets of the units within the department.

(c) *Federal funds and assistance.* — The Secretary may apply for, accept, and administer for the state any federal funds or appropriations of money for any purpose which may be hereinafter made out of the federal treasury by any act of the Congress.

§ 1-104. Responsibilities and duties of Secretary.

(a) *Generally.* — The Secretary is responsible for the development of coordinated policies for the preservation, conservation, enhancement, wise use, and perpetuation of the natural resources of the St[illegible]. He is responsible for the efficient coordination of all the natural resources activities of the State including the settlement of conflicts that may arise among units within the Department of Natural Resources. In the discharge of his responsibility the Secretary shall:

(1) Provide a forum of communication among natural resources units and a source of information for the Governor and General Assembly as to the preservation, conservation, development, and use of all the state's natural resources;

(2) Study and evaluate any plan, program, or activity or any combination of plans, programs, or activities within one or more of the units of the department, and recommend any legislative, budgetary, or administrative changes to provide more effective administration, clarify responsibilities, terminate obsolete programs, establish desirable programs, or alter or amend programs to meet changed or changing conditions;

(3) Review federal statutes, policies, programs, and activities which affect or may affect natural resources in the state and recommend to federal, state, and local agencies and institutions procedures for the coordination of these programs;

(4) Study the natural resources activities of the subdivisions of the state and recommend procedures for coordination of the natural resources activities of the state and its subdivisions;

Md. (cont.)

(5) Maintain a catalog classified by use, of public land acquired or used in the preservation, conservation, development, management, or enjoyment of the natural resources; review and approve all plans and proposals of the units of the department for the acquisition of additional land for such purposes, taking into account public land owned and managed for identical or similar purposes by federal agencies and by counties, municipalities, and other political subdivisions of the State;

(6) Establish and maintain, for the use of the Department, a natural resources library, cataloged according to a recognized library system and containing legal, scientific, and administrative reports, books, documents, photographs, records, and other information on the natural resources and natural resources administration; and

(7) Provide technical assistance to other State units, counties, municipalities, corporations, organizations, groups, and individuals in planning, organizing, and conducting leisure activities and recreation programs.

(b) *Secretary to represent department at hearings and conferences.*—The Secretary shall represent the department at hearings or meetings of the Congress of the United States and the General Assembly of Maryland, state and interstate conferences, and at local meetings or hearings pertaining to any matter of concern to the department.

(c) *Transfer of function, activity, staff, or funds.* — The Secretary may transfer, assign or reassign any function or activity of any unit within the department, together with the staff, funds and equipment associated with that function or activity, either to the office of the Secretary or to any other unit within the Secretary's jurisdiction, in order to increase efficiency and economy in administering natural resources in the state. Whenever the Secretary believes any transfer of function or activity renders misleading or inadequate the name of any unit within the department as enumerated in § 1-102 of this title, he, with the Governor's approval, may assign a new name or names to the affected unit. If this is done, the Secretary shall cause to be submitted to the next ensuing session of the General Assembly a legislative proposal for appropriate amendment of § 1-102 of this title.

(d) *Publications.* — The Secretary shall publish books, pamphlets, maps, and other materials on the subject of natural resources and encourage and assist the department's units in the preparation of these materials for publication. He shall maintain a supply of the publications and other materials for sale at cost to schools, libraries, and the general public, and establish policies for the department on the gratuitous distribution of publications issued by the department and its member units. The Secretary shall edit, publish, and distribute the periodical known as the "Maryland Conservationist" which shall contain nontechnical information on geology and geography, water and mineral resources, plant and animal life, recreational facilities, and other natural resources, including scenic and historic sites.

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Md. (cont.)

(e) *Annual report.* — The Secretary shall publish for each fiscal year a printed report which shall include, but not be limited to, the following:

(1) A review of studies, deliberations, conclusions, and recommendations of the department;

(2) The annual reports submitted by the separate units within the department which shall be edited by the Secretary's staff; and

(3) A review of other natural resources activities of interest or concern to the state and its citizens.

(f) *Reports to Secretary.* — Every unit in the department shall report to the Secretary as provided in the rules and regulations promulgated by the Secretary.

(g) *Secretary to promulgate rules.* — The Secretary is responsible for promulgating rules and regulations for the department. He shall review and have the power to approve, disapprove, issue, or revise the rules and regulations of every unit of the department.

(h) *Delegation of duties.* — The authority, powers, duties, and functions granted to the Secretary or the department shall be exercised and performed by the Secretary or by any unit or official witnin the department designated by the Secretary.

(i) *Seal.* — The office of Secretary of Natural Resources shall have a seal for purposes of authentication of copies of records or papers in his office.

(j) *Exercise of powers, etc., of certain agencies.* — The Secretary may exercise or perform any power, duty, responsibility, or function which any of the following units, or their successors, may exercise or perform: Bureau of Mines, the Maryland Geological Survey, the Fisheries Administration, the Wildlife Administration, the natural resources police force, the Forest Service, the Park Service, the Water Resource [Resources] Administration, the Maryland Environmental Service, the power plant siting program, and the Maryland State Board of Well Drillers.

Subtitle 3. Maryland Environmental Policy Act.

§ 1-301. Definitions.

(a) *Generally.* — In this subtitle the following words have the meanings indicated.

(b) *"Environmental effects report"* means a report on each proposed State action significantly affecting the environment, natural as well as socioeconomic and historic.

(b-1) *"Historic resources"* means those resources included in the Maryland inventory of historic sites.

(c) *"Proposed State action"* means requests for legislative appropriations or other legislative actions that will alter the quality of the air, land, or water resources. It does not include a request for an appropriation or other action with respect to the rehabilitation or maintenance of existing secondary roads.

(d) *"State agencies"* includes the executive and administrative departments, offices, boards, commissions, and other units of the state government and any such bodies created by the state.

§ 1-302. Declaration of policy.

(a) The General Assembly of Maryland finds and declares the facts and policies set forth in this section.

(b) The protection, preservation, and enhancement of the state's diverse environment is necessary for the maintenance of the public health and welfare and the continued viability of the economy of the state and is a matter of the highest public priority.

(c) All State agencies must conduct their affairs with an awareness that they are stewards of the air, land, water, living and historic resources, and that they have an obligation to protect the environment for the use and enjoyment of this and all future generations;

(d) Each person has a fundamental and inalienable right to a healthful environment, and each person has a responsibility to contribute to the protection, preservation, and enhancement of the environment;

(e) It is the continuing policy of the state to cooperate with the federal government, other state governments, the District of Columbia, the political subdivisions of the state, and other concerned public and private organizations and individuals, in a manner calculated to protect, preserve, and enhance the environment.

(f) The determination of an optimum balance between economic development and environmental quality requires the most thoughtful consideration of ecological, economic, developmental, recreational, historic, architectural, aesthetic, and other values;

(g) Beneficial environmental effects of proposed actions can be identified and measures devised to obtain these benefits if environmental evaluations are made a part of the decision-making process of the state;

(h) Adverse environmental effects of proposed actions can be anticipated, minimized, and often eliminated if environmental evaluations are made a part of the decision-making processes of the state.

(i) Environmental effects reports can facilitate the fullest practicable provision of timely public information, understanding, and participation in the decision-making processes of the state;

(j) The General Assembly has an obligation to the people of Maryland to review and evaluate proposed appropriations and other proposed legislation and the conduct of the state agencies in carrying out the policy set forth in this subtitle; and

(k) The policies, rules, regulations, and public laws of the state shall be interpreted and administered in accordance with the policies set forth in this subtitle.

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Md. (cont.)

§ 1-303. Responsibilities and duties of state agencies.

All state agencies, except where existing law expressly prohibits, shall identify, develop, and adopt methods and procedures that will assure that

(1) Environmental amenities and values are given appropriate consideration in planning and decision-making along with economic and technical considerations;

(2) Studies are undertaken to develop and describe appropriate alternatives to present policies, programs, and procedures that involve significant adverse environmental effects or unresolved conflicts concerning uses of available resources; and

(3) Planning and decision-making involving environmental effects are undertaken with the fullest practicable provision of timely public information and understanding and in coordination with public and private organizations and individuals with jurisdiction by law, special expertise, or recognized interest.

§ 1-304. Environmental effects reports.

(a) As of July 1, 1974, all state agencies shall prepare, in conjunction with each proposed state action significantly affecting the quality of the environment, an environmental effects report including, but not limited to, a discussion of:

(1) The effects of the proposed action on the environment, including adverse and beneficial environmental effects that are reasonably likely if the proposal is implemented or if it is not implemented;

(2) Measures that might be taken to minimize potential adverse environmental effects and maximize potential beneficial environmental effects, including monitoring, maintenance, replacement, operation, and other follow-up activities; and

(3) Reasonable alternatives to the proposed action that might have less adverse environmental effects or greater beneficial environmental effects, including, the alternative of no action.

(b) The Secretary of Natural Resources prior to December 31, 1973, shall issue guidelines to assist state agencies in the preparation of environmental effects reports in accordance with this subtitle and pursuant to the public notice provisions of § 245 (c) of Article 41 of the Annotated Code of Maryland, including, but not limited to, provision for:

(1) Comment upon the proposed state action by public and private organizations and individuals with jurisdiction by law, special expertise, or recognized interest prior to the request for legislation;

(2) The possibility of the preparation of single program environmental effects reports if a series of actions taken individually are of minimal significance but if the cumulative effect of the actions on the environment is significant or if a series of actions are related either geographically or as logical parts in a chain of contemplated actions;

(3) The possibility of the preparation of modified environmental effects reports on remaining decisions significantly affecting the quality of the environment that are parts of actions begun before but not completed by July 1, 1974; and

Md. (cont.)

(4) The issuance of guidelines, in accordance with this subtitle and pursuant to the guidelines issued by the Secretary of Natural Resources, for the preparation of environmental effects reports by each state agency that takes actions that significantly affect the quality of the environment.

§ 1-305. Short title.

This subtitle may be cited as the "Maryland Environmental Policy Act."

TITLE 6.

GAS AND OIL.

Subtitle 1. In General.

§ 6-101. Development of resources declared to be in public interest.

It is in the public interest to foster, encourage, and promote the development, production, and utilization of natural resources of oil and gas in the state, to prevent waste, and protect fully the rights of every owner to the end that landowners, royalty owners, producers of oil and gas, and the general public realize and enjoy the greatest possible good from these vital natural resources.

Subtitle 3. Storage of Natural or Artificial Gas and Petroleum Products in Prince George's County.

§ 6-301. Definition.

"*Department*" means Department of Natural Resources.

§ 6-302. Subtitle applicable to Prince George's County only.

The provisions of this subtitle apply only to the storage of natural or artificial gas and petroleum products in Prince George's County.

§ 6-303. Rules and regulations; protection of waters.

The department shall prescribe rules and regulations to effectuate the provisions of this subtitle and any permit to drill, bore, drive, dig, or otherwise conduct any operation for the storage of natural or artificial gas or petroleum products and their derivatives may contain the restrictions the department determines necessary in the public interest to protect the waters of the state, including subsurface and percolating waters.

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Md. (cont.)

§ 6-304. Regulations in addition to rules of department.

The following regulations are additional to the rules and regulations prescribed by the department and do not limit the rule-making authority of the department granted under § 6-303:

(a) Every applicant for a storage permit shall, at the time of application, file with the department a surety bond in the amount of $1,000, payable to the Comptroller of the state on a form approved by the department and executed by a responsible surety company authorized to do business in the state. The bond is intended to assure that necessary safety measures are maintained, and that any well or other opening used in connection with the storage project is properly sealed after abandonment of the project if this action is considered necessary by the department to protect one or more of the natural resources of the state. Any transferee shall file a similar bond.

(b) A permeable sand or stratum containing gas, or into which gas or a liquefied petroleum derivative has been forced under pressure, may not be drilled or left open in a manner permitting an avoidable escape of gas to occur. A well connected with a storage reservoir containing either natural gas or a petroleum derivative stored under pressure, may not be situated within 50 yards of any existing building used as a residence or office.

(c) All fresh-water sands penetrated in drilling to a storage reservoir shall be fully protected by cement grout placed to provide an effective seal to the nearest thick clay bed above the gas storage stratum having a thickness of at least 25 feet. In order to provide an effective seal in the nearest thick clay bed above the gas storage stratum, the clay bed shall have a thickness and other geologic properties adequate, in the opinion of the department, to constitute sufficient protection to the potable fresh-water supplies existing in any aquifers.

§ 6-305. Permit for drilling, digging, etc., for underground storage area — Required.

A person may not drill, bore, drive, dig, or otherwise conduct any operation for the purpose of obtaining access to a pocket or other underground area for the purpose of storing natural or artificial gas or petroleum products and their derivatives, unless a permit for the operation, construction, and storage has been first obtained from the department. Nothing in this subtitle shall be construed to apply to the installation or maintenance of underground tanks or vessels commonly used to store these products.

§ 8-1001. Definitions.

(a) *Generally.* — In this subtitle, the following words have the meanings indicated.

(b) *"Benefited property"* means land immediately abutting the waters of the state protected by an erosion control project constructed under the provisions of this subtitle. Also, it may include land in the vicinity of the waters of the state protected by the erosion control project when the owner of the land has rights of access to it immediately abutting the waters and the owner is a party to the agreement referred to in § 8-1005 in this subtitle.

(c) *"Fund"* means the Shore Erosion Control Construction Loan Fund.

(d) *"Net project construction cost"* means the part of the project construction cost paid from the fund, equal to the project construction cost less the cash contribution of the owner of the benefited property upon completion of construction.

(e) *"Project construction cost"* means total initial cost to construct a shore erosion control project, exclusive of design, supervision, inspection, and maintenance costs.

§ 8-1002. Powers and duties of department.

The department shall:

(1) Develop and implement a program to educate the public on every phase of shore and bank erosion, its causes and effects, the locations where erosion is a problem, and steps to be taken to control it;

(2) Review petitions for formation of shore erosion control districts presented to any county and report to the county as provided in Article 25, § 167B of the Code;

(3) Provide technical assistance to individual property owners, municipalities, and counties having specific shore and bank erosion problems;

(4) Design, or cause to be designed, shore erosion control structures, including vegetative cover, in shore erosion control districts;

(5) Enter into agreements with any person to construct shore erosion control structures;

(6) Administer the fund to provide loans to any person in support of construction of shore erosion control structures;

(7) Supervise or provide supervision of design and erection of any shore protective device the fund finances in whole or part;

(8) Prepare requests for appropriation of funds necessary to maintain the fund;

(9) Cooperate with the following units: the State Highway Administration for shore erosion control where essential to protect municipal, county, or state roads; the United States Army Corps of Engineers to conduct shore erosion studies; and the Soil Conservation Service of the United States Department of Agriculture to evaluate and apply vegetative measures for shore erosion control;

(10) Design, construct, and maintain shore erosion control works on state-owned lands if these projects are included in the budget for the fund;

(11) Actively seek to obtain available funds from the federal government for shore erosion control projects; and

(12) Promulgate rules and regulations to implement this subtitle

Subtitle 11. Sediment Control.

§ 8-1101. Legislative findings; criteria and procedures to implement control programs.

The General Assembly determines and finds that lands and waters comprising the watersheds of the State are great natural assets and resources. As a result of erosion and sediment deposit on lands and in waters within the watersheds of the State, these waters are being polluted and despoiled to such a degree that fish, marine life, and recreational use of the waters are being affected adversely. In addition the General Assembly finds and declares that land movement and disturbance activities on Atlantic Coast beaches east of certain natural and physical contours and elevations of the beach endangers the integrity and continuity of the beach system which includes a dunal system, prevents adequate maintenance, shore erosion and sediment control, and storm protection of these and adjacent areas, and results in the imposition of additional financial burdens on the citizens of the State. To protect the natural resources of the State, the Secretary shall adopt criteria and procedures for the counties and the local soil conservation districts to implement soil and shore erosion control programs. These procedures may provide for departmental review and approval of major grading, sediment, and erosion control plans.

§ 8-1102. Exemptions from subtitle.

The provisions of this subtitle do not apply to agricultural land management practices, construction of agricultural structures, or, except in Calvert County, to construction of single-family residences or their accessory buildings on lots of two acres or more. Regardless of planning, zoning, or subdivision controls, a county or municipality may not issue a permit for grading or construction of any building, other than those matters exempted by the provisions of this section, unless the grading or construction conforms with plans approved as provided in this subtitle.

Md. (cont.)

§ 8-1103. Grading and building permits; grading and sediment control plan; certification by developer; authority and responsibility of department and soil conservation district; grading and building ordinances.

(a) A county or municipality may issue grading and building permits as provided by law. A grading or building permit may not be issued until the developer (1) submits a grading and sediment control plan approved by the appropriate soil conservation district, and (2) certifies that all land clearing, construction, and development will be done under the plan. Criteria for sediment control and the procedure for referring an applicant to the appropriate soil conservation district shall be acceptable to the soil conservation district and the department. The county or municipal unit responsible for on-site inspection and enforcement of the provisions of this subtitle shall make a final inspection and forward its report to the appropriate soil conservation district. Notice of violations of the provisions of this subtitle shall be filed with both the department and the appropriate county unit.

(b) Each county or municipality shall adopt grading and building ordinances necessary to carry out the provisions of this subtitle, with the assistance of the department and the appropriate soil conservation district.

§ 8-1104. Land clearing, soil movement and construction—In general.

(a) *Review and approval by soil conservation district.* — Before any person clears, grades, transports or otherwise disturbs land for any purpose including, but not limited to constructing buildings, mining minerals, developing golf courses, or constructing roads and streets, the appropriate soil conservation district first shall receive, review, and approve the proposed earth change. Land clearing, soil movement, and construction shall be carried out in accordance with the written recommendations of the soil conservation districts regarding control of erosion and siltation and elimination of pollution.

(b) *Rules and regulations for erosion and siltation control in Prince George's and Montgomery counties.* — In Prince George's and Montgomery counties, the Washington Suburban Sanitary Commission, after consultation with and advice of the soil conservation districts of the two counties and the department, shall prepare and adopt rules and regulations for erosion and siltation control requirements for utility construction. The rules and regulations shall be adopted and enforced as are others of the commission under authority conferred by other laws. These rules and regulations apply to any contractor doing work for the Washington Suburban Sanitary Commission. Utility construction may not be undertaken in Montgomery County until an erosion and sediment control plan is submitted to and approved by the Washington Suburban Sanitary Commission. After the county reviews and approves the plans, the commission may issue a permit for construction. In every case conditions of any permit granted for work performed in Montgomery County by any contractor doing work for the Washington Suburban Sanitary

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Md. (cont.)

Commission and by any public service company, as defined in § 2, Article 78, of the Code may not be less stringent than standards incorporated into the provisions of any grading or building law or ordinance adopted pursuant to § 8-1103 of this subtitle. Montgomery County shall inspect and enforce the conditions of the approved plans and permits. The provisions of this subsection do not apply until the soil conservation district in the county approves erosion and siltation control requirements for utility construction in that county.

§ 8-1105. Same—Approval by department when undertaken by state unit.

The provisions of § 8-1104 do not apply to any state unit. If a state unit undertakes any land clearing, soil movement, or construction activity, the department shall review and approve this action.

§ 8-1105.1. Beach Erosion Control District.

(a) A Beach Erosion Control District is created which consists of that land bordered on the north by the boundary line between the State of Maryland and the State of Delaware, bordered on the east by the waters of the Atlantic Ocean, bordered on the south by the borderline between the State of Maryland and the State of Virginia, and bordered on the west by a line which coincides, more or less, with the west crest of the existing natural dune on Assateague Island, and in Ocean City, is a mutually approved line to be known as the State-Ocean City building limit line which coincides, more or less, with the existing Ocean City building limit line and on occasion may coincide with the crest of the littoral system. The Department, after surveying, platting and recording the State-Ocean City building limit line, has the authority to describe by regulation the State-Ocean City building limit line. The Department shall perform the survey, plating [platting] and recording at its own expense within 30 days of July 1, 1975.

(b) For the purposes of maintaining the Atlantic Coast beaches of the State and the Beach Erosion Control District, the integrity and continuity of the dunal system and assuring adequate maintenance thereof, to provide for shore erosion and sediment control and storm protection, and to minimize structural interference with the littoral drift of sand and any anchoring vegetation, any land clearing, construction activity, or the construction or placement of permanent structures within the Beach Erosion Control District is prohibited. This prohibition does not apply to any project or activity approved by the Department and the appropriate soil conservation district specifically for storm control, beach erosion and sediment control, and maintenance projects designed to benefit the Beach Erosion Control District.

(c) If the prohibitions imposed for the Beach Erosion Control District would constitute a taking of a property right without just compensation in violation of the Constitution of the United States or the Constitution of Maryland, funds under Program Open Space may be used to purchase or otherwise pay for any property taken.

(d) The provisions of this section are in addition to the provisions of § 8-1103 and § 8-1104.

Md. (cont.)

§ 8-1106. Department to assist soil conservation districts.

The department shall assist soil conservation districts in preparing and implementing a unified sediment control program under this subtitle.

Subtitle 14. Water Pollution Control and Abatement.

§ 8-1402. Declaration of public policy.

Because the quality of the waters of this state is vital to the public and private interests of its citizens and because pollution constitutes a menace to public health and welfare, creates public nuisances, is harmful to wildlife, fish and aquatic life, and impairs domestic, agricultural, industrial, recreational, and other legitimate beneficial uses of water, and the problem of water pollution in this state is closely related to the problem of water pollution in adjoining states, it is state public policy to improve, conserve, and manage the quality of the waters of the state and protect, maintain, and improve the quality of water for public supplies, propagation of wildlife, fish and aquatic life, and domestic, agricultural, industrial, recreational, and other legitimate beneficial uses. Also, it is state public policy to provide that no waste is discharged into any waters of this state without first receiving necessary treatment or other corrective action to protect the legitimate beneficial uses of this state's waters, and provide for prevention, abatement, and control of new or existing water pollution. The department shall cooperate with the agencies of other states and the federal government in carrying out these objectives.

§ 8-1405. Powers and duties of administration generally.

(a) *In general.* — The administration shall have and may exercise the following powers and duties:

(1) General supervision over the administration and enforcement of this subtitle and all rules, regulations, and orders promulgated pursuant to it;

(2) Develop comprehensive programs and plans for prevention, control, and abatement of pollution of the waters of the state;

(3) Advise, consult, and cooperate with other units of the state, the federal government, other state and interstate agencies, affected groups, political subdivisions, and industries to further the purposes of this subtitle;

(4) Accept and administer loans and grants from the federal government and other sources, public or private, to carry out any of its functions;

(5) Encourage, participate in, finance, or conduct studies, investigations, research, and demonstrations relating to water pollution and its causes, prevention, control, and abatement;

(6) Collect and disseminate information relating to water pollution and its prevention, control, and abatement;

(7) Adopt, modify, repeal, and promulgate water quality standards for the waters of the state, and effluent standards for waters discharged into the waters of the state;

(8) Adopt, modify, repeal, and promulgate, after due notice and hearing, and enforce rules and regulations implementing or effectuating its powers and duties;

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Md. (cont.)

(9) Issue, modify, or revoke orders and permits prohibiting discharges of pollutants into the waters of the state or require construction, modification, extension, or alteration of new or existing disposal systems or treatment works or parts of them or the adoption of other reasonable remedial measures to prevent, control, or abate pollution or undesirable changes in the quality of the waters of the state;

(10) Hold hearings, issue notices of hearing and subpoenas requiring the attendance of witnesses and production of evidence, administer oaths, and take necessary testimony, any of these powers may be exercised by the director or a hearing officer the director designates in writing;

(11) Require prior submission of plans, specifications, and other data relative to, and inspect construction of, disposal systems or treatment works or any part of them in connection with issuing permits or approvals required by this subtitle;

(12) Issue, continue in effect, revoke, modify, or deny, under conditions it prescribes, permits to discharge water or wastewater into waters of the state, and install, modify, or operate disposal systems or any parts of them;

(13) Require proper maintenance and operation of disposal systems; and

(14) Exercise every incidental power necessary to carry out the purposes of this subtitle.

(b) *Water quality and effluent standards and rules and regulations.* — The administration may set water quality and effluent standards applicable to the waters of the state or portions of it. The standards shall protect public health, safety, and welfare and the present and future use of the waters for public water supply, the propagation of fish and other aquatic life and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses. All standards may be amended from time to time by the administration and shall include but not be limited to:

(1) Water quality standards, specifying, among other things, the maximum short-term and long-term concentrations of pollutants in the water, minimum permissible concentrations of dissolved oxygen and other desirable matter in the water and the temperature range for the water;

(2) Effluent standards specifying the maximum loading or concentrations and the physical, thermal, chemical, biological, and radioactive properties of wastes which may be discharged into the waters; standards shall be at least as stringent as those specified by the national pollutant discharge elimination system;

(3) Rules and regulations defining technique for filling and sealing of abandoned water wells and holes, for disposal wells, for mines both deep and surface, and for landfills to prevent groundwater contamination, seepage, and drainage into the waters of the state;

(4) Rules and regulations regarding the sale, offer, use or storage of pesticides, and other articles which constitute a water pollution hazard in the determination of the administration;

(5) Rules and regulations outlining the procedures for water pollution episodes or emergencies which constitute an acute danger to health or the environment;

(6) Rules and regulations prescribing method, facilities, standards, and devices for transfer, storage, separation, removal, treatment, and disposal of oil and other unctuous substances;

(7) Rules and regulations specifying standards for equipment and procedures for monitoring pollutants, collection of samples, logging and reporting of the monitoring.

(c) *Rules and regulations generally.* — (1) The administration may adopt, amend, or repeal procedural rules necessary to accomplish the purposes of this subtitle. Notice of public hearing shall specify the general subject matter of the regulation and, if appropriate, shall specify the waters for which the standards or criteria are sought to be adopted, amended or repealed and shall publicly circulate notice of its intended action and afford interested persons opportunity to submit data or views, orally or in writing.

(2) The administration may adopt, amend, or repeal substantive regulations as described in this paragraph. In promulgating regulations under this subtitle, the administration shall take into account the existing physical conditions, the character of the area involved, including the character of surrounding land uses, priority ranking of waters with regard to effluent limits, zoning classifications, the nature of the existing receiving body of water, the technical feasibility and economic reasonableness of measuring or reducing the particular type of water pollution, and any other standard as expressed in the intent and purpose of this title. The generality of this grant of authority shall only be limited by the specifications of particular classes of regulations elsewhere in this subtitle. Any regulation may (i) prescribe different provisions as required by circumstances for different pollutant sources and for different geographical areas and (ii) apply to sources located outside this state which cause, contribute to, or threaten environmental damage in Maryland and (iii) make special provisions for alert and abatement standards and procedures respecting occurrences or emergencies of pollution or on other short-term conditions constituting an acute danger to health or to the environment.

(d) *Regulation of transfer and storage of oil and other unctuous substances.* — The department shall prescribe by rule or regulation approved methods, facilities, standards, and devices for transfer, storage, separating, removing, treating, or disposing of oil and other unctuous substances to prevent pollution of waters of the state. A person may not engage in any commercial or industrial operation involving these activities unless he has obtained a permit from the department, indicating that the activities are in conformity with the prescribed rules and regulations.

(e) *Investigation of damage to aquatic resources; responsibility for cleanup; suit against persons liable for damage to aquatic resources.* — Whenever there occurs in the waters of the state any condition indicative of damage to aquatic resources, including, but not limited to, mortality of fish and other aquatic life, the department shall investigate the incident, determine the nature and extent of the damage, and establish the cause and source of the occurrence. The department shall act on these findings and require repair of any damage done and restoration of water resources to a degree necessary to protect the best

interest of the people of the state. Any person who is determined to be responsible for the discharge or spillage of any such substance shall be personally and/or severally responsible to immediately clean up and abate the effects of the spillage and restore the natural resources of the state. If the department believes instituting suit is advisable, it shall turn over to the Attorney General all pertinent information and data. The Attorney General then shall file suit against the person causing the condition. The person shall be jointly and severally liable for the reasonable cost of rehabilitation and restoration of the resources damaged and the cost of eliminating the condition causing the damage, including the environmental monetary value of such resources as established by regulation.

§ 8-1406. Development of program to respond to emergency oil spillage.

The Maryland Port Administration is responsible for developing a program, including training, to enable the state to respond to an emergency oil spillage in the Baltimore Harbor area and the department is responsible for developing a similar program in other waters of the state. These units shall coordinate efforts of the various state and local units aiding in the operation and may request the aid of any appropriate federal agency if necessary.

§ 8-1407. Bond of vessels on waters of state to discharge or receive oil cargo.

(a) Except for a vessel carrying or receiving 25 barrels or less of oil, any vessel, whether or not self-propelled, in or entering upon the waters of the state to discharge or receive a cargo of any bulk oil in the state shall post a bond of $100 per gross ton of vessel with either the Maryland Port Administration or the department. The bond shall be in a form approved by the administration and the department and may be obtained individually or jointly by the vessel, its owner or agent, its charterer, or the owner or operator of the terminal at which the vessel discharges or receives the bulk oil. If the Maryland Port Administration or the department determines oil has been discharged or spilled into the waters of the state from the vessel, the bond shall be forfeited, to the extent of the costs incurred by these units to eliminate the residue of oil discharge or spillage, to the extent of damage caused to the natural and recreational resources of the state, and to the extent of any otherwise uncollectible fine levied against the vessel, its owner or agent, its charterer, or the owner or operator of the terminal at which the vessel discharges or receives the bulk oil. The remedies provided in this section are in addition to every other remedy available. Bond may not be released without certification by the Maryland Port Administration or the department that the vessel has not been a source of oil discharge or spillage into the waters of the state. If a vessel presents adequate evidence of financial responsibility to the federal government, it shall be exempt from the Maryland provisions requiring posting, and forfeiture, on certain conditions of a bond.

(b) The owner, agent, charterer, and owner or operator of the terminal at which a vessel discharges or receives cargo of bulk oil without being bonded as provided in subsection (a) of this section is guilty of a misdemeanor and upon conviction in a court of competent jurisdiction is subject to a fine not exceeding $5,000 for each offense.

§ 8-1408. Compensatory fee for oil spillage.

The Maryland Port Administration and the department shall charge and collect a compensatory fee from the person responsible for any oil spillage. This fee shall cover the cost of labor, equipment operation, and material necessary to eliminate the residue of oil spillage, and the cost of restoring the area damaged by the spillage to its original condition. The fee is retained by the unit charging the fee.

§ 8-1409. Liability for damages caused by oil spillage.

The person responsible for the oil spillage shall be liable to any other person for any damage to his real or personal property directly caused by the spillage.

§ 8-1410. Vessels discharging oil.

(a) *Prohibited; exceptions.* — Except in case of emergency imperiling life or property, unavoidable accident, collision, or stranding, it is unlawful for any person to discharge or permit the discharge of oil in any manner into or on waters of the state from any vessel, ship, or boat of any kind.

(b) *Duty to report discharge.* — Notwithstanding any provision of this subtitle, any person discharging or permitting the discharge of oil, or who either actively or passively participates in the discharge or spilling of oil into the waters of the state either from a land-based installation, including vehicles in transit, or from any vessel, ship, or boat of any kind, shall report the incident immediately to the appropriate federal authority or the department, or both. He shall remain available until clearance to leave is given by the appropriate officials.

(c) *Administration and enforcement of section.* — To administer this section the department may use the organization, equipment, and units, including engineering, clerical, and other personnel, employed in the improvement and preservation of waters and natural resources of the state to enforce the laws for the preservation and protection of the waters and natural resources of the state. Any person authorized by law to make arrests may apply for a warrant, arrest, and take into custody, with or without process, any person who violates any provision of this section. However, a person may not be arrested without process for a violation not committed in the presence of one of the aforesaid officials. If any person is arrested under the provisions of this section, the person arrested immediately shall be brought before a judge, or court of the state for examination of the offense alleged against him.

Md. (cont.)

(d) *Notice to department of violations.* — Whenever any person or ship is accused of violating any provision of this section, the arresting officer shall notify the department in writing to permit the department to take any advisable action. The provisions of this subsection are directory only.

(e) *Construction of section.* — This section shall be in addition to the laws existing prior to June 1, 1949, for the preservation and protection of waters of the Chesapeake Bay and its tributaries. It does not repeal, modify, or in any manner affect the provisions of those laws.

§ 8-1411. Oil discharge containment, control and clean-up.

(a) *Definitions.* — In this section the following words and phrases have the meaning indicated.

(1) *"Discharge"* means any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

(2) *"Fund"* means the Maryland Oil Disaster Containment, Clean-up and Contingency fund.

(3) *"Oil, petroleum products, and their by-products"* means oil of any kind and in any liquid form including, but not limited to petroleum, fuel oil, sludge, oil refuse, oil mixed with other waste, crude oils and every other liquid hydrocarbon regardless of specific gravity.

(4) *"Oil terminal facility"* means a facility of any kind and related appurtenances receiving, transferring, or discharging oil, petroleum products, and their by-products to or from any commercial vessel, tank truck, tank car, or any other vehicle used for transporting these products in the state and having a total storage capacity in excess of 3,000 barrels.

(5) *"Operator"* means any person owning or operating an oil terminal facility whether by lease, contract, or any other form of agreement.

(6) *"Total storage capacity"* means the aggregate capacity available to store oil, petroleum products, and their by-products at an oil terminal facility.

(7) *"Barrel"* means any measure of petroleum products or its by-products which consists of 42.0 U.S. gallons of liquid measure.

(b) *License to operate oil terminal facility - Required.* — A person may not operate or cause to be operated an oil terminal facility as described in this subtitle without a license.

(c) *Same — Procedure to obtain; fee; disposition of fees.* — A license required under this section shall be secured from the Department subject to terms and conditions set forth in this section, and by paying an annual fee according to the following schedule using the total storage capacity at an oil terminal facility as an indicator of the utilization, impact, and possible hazards to the State's natural resources.

License Designation	Total Storage Capacity, in Barrels	Annual License Fee
Class A	50,000 or greater	$5,000
Class B	20,000 to less than 50,000	$1,500
Class C	10,000 to less than 20,000	$1,000
Class D	5,000 to less than 10,000	$ 500
Class E	Less than 5,000 but greater than 3,000	$ 250

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Md. (cont.)

The annual fee may not be less than $250 nor greater than $5,000. However, the maximum paid by any one person may not exceed $25,000. At the time the fund reaches its maximum of $1,000,000, collection of the annual license fees shall be abated. Annual fees shall be paid by these facilities to the State Comptroller and upon receipt by him credited to the Maryland Oil Disaster Containment, Clean-Up and Contingency Fund. Annual fees shall be paid by these facilities not later than September 1, for the fiscal year beginning July 1 immediately preceding. The collection of license fees for any one year may not exceed the sum of $250,000. Any excess over $250,000 shall be credited or refunded to the licensees on a prorated basis.

(d) *Same—Conditions.* — As a condition precedent to the issuance or renewal of a license, the department shall require satisfactory evidence that the applicant has implemented or is in the process of implementing state and federal plans and regulations to control pollution related to oil, petroleum products, and their by-products and the abatement thereof when a discharge occurs.

(e) *Same—Penalty for violation of licensing provisions.* — Any person who violates subsections (b) through (d) of this section is guilty of a misdemeanor and upon conviction in a court of competent jurisdiction is subject to a fine of at least $500 and not exceeding $10,000.

(f) *Maryland Oil Disaster Containment, Clean-Up and Contingency Fund — Created and continued; purpose; reimbursement by polluters; credits; debits.* — The Maryland Oil Disaster Containment, Clean-Up and Contingency Fund is created and continued for the Department to use to develop equipment, personnel, and plans; for contingency actions to respond to, contain, clean-up, and remove from the land and waters of the State, discharges of oil, petroleum products and their by-products into, upon or adjacent to, the waters of the State; and restore natural resources damaged by discharges. The cost of containment, clean-up, removal and restoration shall be reimbursed to the State by the person responsible for the discharge. The reimbursement shall be credited to the fund. The fund shall be limited to the sum of $1,000,000. To this sum shall be credited every license fee, fine, if imposed by the circuit court for any county or the Criminal Court of Baltimore as the case may be, and any other charge related to this subtitle. To this fund shall be charged every expense the Department has which relates to this section.

(g) *Same—Use of funds not currently needed.* — Money in the fund not needed currently to meet the department's obligations in the exercise of its responsibility under this section shall be deposited with the State Treasurer to the credit of the fund, and may be invested as provided by law. Interest received on the investment shall be credited to the fund. The Secretary shall determine the proper allocation of the moneys credited to the fund only for the following purposes:

(1) Administrative expenses, personnel expenses, and equipment costs of the department related to the purposes of this section.

(2) Prevention, control, containment, clean-up, and removal of discharges into, upon, or adjacent to waters of the state of discharges of oil, petroleum products and their by products, and the restoration of natural resources damaged by such discharges.

(3) Development of containment and clean-up equipment, plans, and procedures in accordance with the purposes of this section.

(4) Paying insurance costs by the state to extend or implement the benefits of the fund.

TITLE 9.

WETLANDS AND RIPARIAN RIGHTS.

Subtitle 1. In General.

§ 9-102. Declaration of public policy.

In many areas of the state much of the wetlands have been lost or despoiled by unregulated dredging, dumping, filling, and like activities, and the remaining wetlands are in jeopardy of being lost or despoiled by these and other activities. The loss or despoliation will affect adversely, if not eliminate entirely, the value of the wetlands as a source of nutrient to finfish, crustacea, and shellfish of significant economic value; the loss or despoliation will destroy the wetlands as a habitat for plants and animals of significant economic value and eliminate or substantially reduce marine commerce, recreation, and aesthetic enjoyment; in most cases, the loss or despoliation will affect the natural ability of tidal wetlands to reduce flood damage and affect adversely the public health and welfare; the loss or despoliation will reduce substantially the capacity of the wetlands to absorb silt and result in increased silting of channel and harbor areas to the detriment of free navigation. It is therefore the public policy of the state, taking into account varying ecological, economic, developmental, recreational, and aesthetic values, to preserve the wetlands and prevent their despoliation and destruction.

Subtitle 2. State Wetlands.

§ 9-202. License for dredging or filling.

(a) *Required.* — A person may not dredge or fill on state wetlands, without a license.

(b) *Secretary to assist board and prepare report.* — The Secretary shall assist the board in determining whether to issue a license to dredge or fill state wetlands. The Secretary shall submit a report indicating whether the license should be granted and, if so, the terms, conditions, and consideration required after consultation with any interested federal, state, and local unit, and after holding any hearing and taking any evidence the Secretary thinks advisable.

Md. (cont.)

(c) *Hearing; issuance; conditions.* — After a hearing in the local subdivision affected, the Board shall decide if issuance of the license is in the best interest of the State, taking into account the varying ecological, economic, developmental, recreational, and aesthetic values each application presents. If the Board decides to issue the license, it shall be for consideration and on terms and conditions the Board determines. Every license shall be in writing. With respect to an application for a license to fill or construct a shore erosion control structure on State wetlands, the Board may issue the license without a hearing if the fill area is less than 300 feet in length parallel to the fast land and not more than 10 feet channelward of the mean high water line and if the report of the Secretary recommends that the license be granted.

(d) *Exceptions.* — The provisions of this section do not apply to any operation for: (1) dredging and filling being conducted as of July 1, 1970, as authorized under the terms of an appropriate permit or license granted under the provisions of existing state and federal law; (2) dredging of seafood products by any licensed operator, harvesting of seaweed, or mosquito control and abatement as approved by the Department of Agriculture; or (3) improvement of wildlife habitat or agricultural drainage ditches as approved by an appropriate unit.

(e) *Penalty for violation of section.* — Any person who violates any provision of this section is guilty of a misdemeanor. Upon conviction, the person is subject to a fine not exceeding $1,000 with costs imposed in the discretion of the court.

Subtitle 3. Private Wetlands.

§ 9-301. Inventory; preparation of boundary maps; hearings on proposed boundary map; order establishing bounds and rules and regulations.

(a) *Secretary to inventory private wetlands; preparation of maps.* — The Secretary shall promptly delineate the landward boundaries of any wetlands in the state. The landward boundaries of the wetlands shall be shown on suitable maps or aerial photographs on a scale of one inch to 200 feet. The maps shall cover an entire political subdivision of the state as determined by the Secretary.

(b) *Secretary to hold hearing in county of affected private wetlands.* — The Secretary shall hold a public hearing in the county of the affected wetlands on completion of the boundary map required in subsection (a) and adoption of proposed rules and regulations provided in § 9-302. The Secretary shall give notice of the hearing by registered or certified mail not less than 30 days prior to the hearing date, to each owner shown on tax records as an owner of land designated on the map as a wetland. The notice shall include the proposed rules and regulations. The Secretary shall publish notice of the hearing at least once not more than 30 days and not fewer than ten days before the date of the hearing in a newspaper published within and having a general circulation in every county where the wetlands are located.

(c) *Order establishing bounds, rules and regulations; notice of order.* — After considering the testimony at the hearing and any other pertinent fact,

considering the rights of every affected property owner, and the purposes of this subtitle, the Secretary shall establish by order the landward bounds of each wetland and the rules and regulations applicable to it. A copy of the order, together with a copy of the map depicting the boundary lines, shall be filed among the land records in every county affected after final appeal has been completed. The Secretary shall give notice of the order to each owner of record of any land designated as wetlands by mailing a copy of the order to the owner by registered or certified mail. The Secretary shall also publish the order in a newspaper published within and having a general circulation in every county where the wetlands are located.

§ 9-302. Rules and regulations governing dredging and filling.

(a) *Secretary to promulgate.* — To promote the public safety, health, welfare, wildlife, and marine fisheries, the Secretary may promulgate rules and regulations governing dredging, filling, removing, or otherwise altering or polluting private wetlands. The rules and regulations may vary as to specific tracts of wetlands because of the character of the wetlands.

(b) *Rules and regulations promulgated with advice and consent of Maryland Agricultural Commission* — The rules and regulations shall be promulgated with the advice and consent of the Maryland Agricultural Commission, and in consultation with any appropriate unit in the affected political subdivision.

(c) *Maryland Agricultural Commission to act upon proposed rules and regulations.* — The Secretary shall transmit a copy of any proposed rules and regulations to the Maryland Agricultural Commission. Within 60 days from the receipt of the copy, the Maryland Agricultural Commission shall inform the Secretary of its decision as to the acceptance or rejection of the rules and regulations. Failure to so inform the Secretary shall be considered approval of the rules and regulations by the commission.

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New Jersey

N.J. Stat. Ann., Title 13 Conservation and Development--Parks and Reservations

CHAPTER 1D. DEPARTMENT OF ENVIRONMENTAL PROTECTION [NEW]

I. ORGANIZATION

13:1D-1. Reorganization of Department of Conservation and Economic Development

The Department of Conservation and Economic Development heretofore established as a principal department in the Executive Branch of the State Government is hereby reorganized, continued and designated as the Department of Environmental Protection, and the office of Commissioner of Conservation and Economic Development is hereby continued and designated as the office of the Comissioner of Environmental Protection.

13:1D-9. Powers of department

The department shall formulate comprehensive policies for the conservation of the natural resources of the State, the promotion of environmental protection and the prevention of pollution of the environment of the State. The department shall in addition to the powers and duties vested in it by this act or by any other law have the power to:

a. Conduct and supervise research programs for the purpose of determining the causes, effects and hazards to the environment and its ecology;

b. Conduct and supervise Statewide programs of education including the preparation and distribution of information relating to conservation, environmental protection and ecology;

c. Require the registration of persons engaged in operations which may result in pollution of the environment and the filing of reports by them containing such information as the department may prescribe to be filed relative to pollution of the environment, all in accordance with applicable codes, rules or regulations established by the department;

d. Enter and inspect any building or place for the purpose of investigating an actual or suspected source of pollution of the environment and ascertaining compliance or noncompliance with any code, rules and regulations of the department. Any information relating to secret processes concerning methods of manufacture or production obtained in the course of such inspection, investigation or determination, shall be kept confidential and shall not be admissible in evidence in any court or in any other proceeding except before the department as herein defined. If samples are taken for analysis, a duplicate of the analytical report shall be furnished promptly to the person suspected of causing pollution of the environment;

e. Receive or initiate complaints of pollution of the environment, including thermal pollution, hold hearings in connection therewith and institute legal proceedings for the prevention of pollution of the environment and abatement of nuisances in connection therewith and shall have the authority to seek and obtain injunctive relief and the recovery of fines and penalties in summary proceedings in the Superior Court;

f. Prepare, administer and supervise Statewide, regional and local programs of conservation and environmental protection, giving due regard for the ecology of the varied areas of the State and the relationship thereof to the environment, and in connection therewith prepare and make available to appropriate agencies in the State technical information concerning conservation and environmental protection, cooperate with the Commissioner of Health in the preparation and distribution of environmental protection and health bulletins for the purpose of educating the public, and cooperate with the Commissioner of Health in the preparation of a program of environmental protection;

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N.J. (cont.)

g. Encourage, direct and aid in coordinating State, regional and local plans and programs concerning conservation and environmental protection in accordance with a unified State-wide plan which shall be formulated, approved and supervised by the department. In reviewing such plans and programs and in determining conditions under which such plans may be approved, the department shall give due consideration to the development of a comprehensive ecological and environmental plan in order to be assured insofar as is practicable that all proposed plans and programs shall conform to reasonably contemplated conservation and environmental protection plans for the State and the varied areas thereof;

b. Administer or supervise programs of conservation and environmental protection, prescribe the minimum qualifications of all persons engaged in official environmental protection work, and encourage and aid in coordinating local environmental protection services;

i. Establish and maintain adequate bacteriological, radiological and chemical laboratories with such expert assistance and such facilities as are necessary for routine examinations and analyses, and for original investigations and research in matters affecting the environment and ecology;

j. Administer or supervise a program of industrial planning for environmental protection; encourage industrial plants in the State to undertake environmental and ecological engineering programs, and cooperate with the State Departments of Health and Labor and Industry in formulating rules and regulations concerning industrial sanitary conditions;

k. Supervise sanitary engineering facilities and projects within the State, authority for which is now or may hereafter be vested by law in the department, and shall, in the exercise of such supervision, make and enforce rules and regulations concerning plans and specifications, or either, for the construction, improvement, alteration or operation of all public water supplies, all public bathing places, land fill operations and of sewerage systems and disposal plants for treatment of sewage, wastes and other deleterious matter, liquid, solid or gaseous, require all such plans or specifications, or either, to be first approved by it before any work thereunder shall be commenced, inspect all such projects during the progress thereof and enforce compliance with such approved plans and specifications;

l. Undertake programs of research and development for the purpose of determining the most efficient, sanitary and economical ways of collecting, disposing or utilizing of solid waste;

m. Construct and operate, on an experimental basis, incinerators or other facilities for the disposal of solid waste, provide the various municipalities and counties of this State, the Public Utilities Commission, and the Division of Local ~~Finance~~ Government Services in the Department of Community Affairs with statistical data on costs and methods of solid waste collection, disposal and utilization;

n. Enforce the State air pollution, water pollution, conservation, environmental protection, waste and refuse disposal laws, rules and regulation;

o. Acquire by purchase, grant, contract or condemnation, title to real property, for the purpose of demonstrating new methods and techniques for the collection or disposal of solid waste;

p. Purchase, operate and maintain, pursuant to the provisions of this act, any facility, site, laboratory, equipment or machinery necessary to the performance of its duties pursuant to this act;

q. Contract with any other public agency or corporation incorporated under the laws of this or any other state for the performance of any function under this act;

r. With the approval of the Governor, cooperate with, apply for, receive and expend funds from, the Federal Government, the State Government, or any county or municipal government or from any public or private sources for any of the objects of this act;

s. Make annual and such other reports as it may deem proper to the Governor and the Legislature evaluating the demonstrations conducted during each calendar year;

N.J. (cont.)

t. Keep complete and accurate minutes of all hearings held before the commissioner or any member of the department pursuant to the provisions of this act. All such minutes shall be retained in a permanent record, and shall be available for public inspection at all times during the office hours of the department;

u. Require any person subject to a lawful order of the department which provides for a period of time during which such person subject to the order is permitted to correct a violation to post a performance bond or other security with the department in such form and amount as shall be determined by the department. Such bond need not be for the full amount of the estimated cost to correct the violation but may be in such amount as will tend to insure good faith compliance with said order. The department shall not require such a bond or security from any public body, agency or authority. In the event of a failure to meet the schedule prescribed by the department, the sum named in the bond or other security shall be forfeited unless the department shall find that the failure is excusable in whole or in part for a good cause shown in which case the department shall determine what amount of said bond or security, if any, is a reasonable forfeiture under the circumstances. Any amount so forfeited shall be paid to the general State fund.

13:1D-10. Division of Economic Development; Economic Development Council; New Jersey Area Redevelopment Authority; Department of Institution and Agencies; Veterans' Services Council

a. The Division of Economic Development, together with all of its functions, powers and duties, is continued, transferred and constituted the Division of Economic Development in the Department of Labor and Industry.

The Economic Development Council, together with all of its functions, powers and duties, is continued, transferred and constituted the Economic Development Council in the Department of Labor and Industry. This act shall not affect the terms of office of the present members of the council. The members of the council shall continue to be appointed as provided by existing law.

b. The New Jersey Area Redevelopment Authority, established pursuant to the laws of 1962, chapter 204, as amended and supplemented (C. 13:1B-15.13 et seq.), together with all of its functions, powers and duties, is continued and transferred to the Department of Labor and Industry. This act shall not affect the terms of office of the present members of the authority. The members of the authority shall continue to be appointed as provided by existing law, except that the Commissioner of Banking shall serve as an ex-officio member of the authority in the place and stead of the Commissioner of Banking and Insurance as heretofore.

c. The functions, powers and duties of the Division of Veterans Services in the Department of Conservation and Economic Development are transferred to and shall be exercised and performed by the Department of Institutions and Agencies through an appropriate organizational unit to be established by the Commissioner of Institutions and Agencies with the approval of the State Board of Control. The term of office of the Director of the Division of Veterans Services shall expire on the effective date of this act.

The Veterans' Services Council, together with all its functions, powers and duties, is continued and constituted the Veterans' Services Council in the Department of Institutions and Agencies. This act shall not affect the terms of office of the present members of the council. The members of the council shall continue to be appointed as provided by existing law.

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N.J. (cont.)

III. CONSTRUCTION PERMITS

13:1D-29. Definitions

For the purposes of this act, unless the context clearly requires a different meaning, the following terms shall have the following meanings:

a. "Commissioner" means the State Commissioner of Environmental Protection.

b. "Construction permit" means and shall include:

1. Approval of plans for the development of any waterfront upon any tidal waterway pursuant to R.S. 12:5-3.

2. A permit for a regulated activity pursuant to "The Wetlands Act of 1970," P.L.1970, c. 272 (C. 13:9A-1 et seq.).

3. A permit issued pursuant to the "Coastal Area Facility Review Act," P.L.1973, c. 185 (C. 13:19-1 et seq.).

4. Approval of a structure within the natural and ordinary high-water mark of any stream pursuant to R.S. 58:1-26.

5. Approval of plans and specifications for the construction changes, improvements, extensions or alterations to any sewer system pursuant to R.S. 58:11-10.

"Construction permit" shall not, however, include any approval of or permit for an electric generating facility or for a petroleum processing or storage facility, including a liquefied natural gas facility, with a storage capacity of over 50,000 barrels.

c. "Department" means the Department of Environmental Protection.

N.J. (cont.)

13:1D-30. Application for construction permits; review; request for additional information

The department shall promptly review all applications for construction permits. The department shall within 20 working days following the filing of an application for a construction permit, except a permit issued pursuant to the Coastal Area Facility Review Act, P.L.1973, c. 185 (C. 13:19–1 et seq.), request that the applicant submit additional information to assist it in its review if it deems that such information is necessary. In the event that such information is requested, the application will be construed to be complete when the additional information is received by the department.

13:1D-31. Application for construction permit; approval, conditioning or disapproval; time period

The department shall approve, condition or disapprove an application for a construction permit within 90 days following the date that the application is complete, except that this time period may be extended for a 30-day period by the mutual consent of the applicant and the department, provided that the department request the applicant for such an extension at least 15 days prior to the expiration date for the approval, conditioning or disapproval of such an application.

13:1D–32. Failure to take action within time period; application deemed approved

In the event that the department fails to take action on an application for a construction permit within the 90-day period specified herein, then the application shall be deemed to have been approved; provided, however, that the time periods specified in section 12 of P.L.1973, c. 185 (C. 13:19–12) shall apply to applications for construction permits pursuant to the Coastal Area Facility Review Act, P.L.1973, c. 185 (C. 13:19–1 et seq.).

13:1D–33. Rules and regulations; fees; environmental services fund

The commissioner shall adopt, amend and repeal rules and regulations to implement the provisions of this act. The commissioner shall in accordance with a fee schedule adopted as a rule or regulation establish and charge reasonable fees for the filing and review of any application for a construction permit. The fees imposed hereunder, except as may otherwise be provided by law, shall be deposited in a fund to be known as the "Environmental Services Fund," kept separate and apart from all other State receipts and appropriated only as provided herein. There shall be appropriated annually to the department revenue from such fund sufficient to defray in full the costs incurred in the processing and review of applications for construction permits.

13:1D–34. Monthly bulletin

The commissioner shall publicly distribute, at least monthly, a bulletin, listing the pending applications for construction permits and the status of the review of those applications, including decisions thereon.

CHAPTER 1H. STATE AID TO LOCAL ENVIRONMENTAL AGENCIES [NEW]

13:1H-1. Short title

This act shall be known and may be cited as the "Environmental Aid Act."

13:1H-3. Purposes for grant

State aid may be granted by the department to a local environmental agency for any purpose that the agency is authorized to perform by law and for the preparation of an environmental index.

CHAPTER 9A. COASTAL WETLANDS [NEW]

13:9A-1. Legislative intent; inventory and mapping of tidal wetlands; filing in office of county recording officer

a. The Legislature hereby finds and declares that one of the most vital and productive areas of our natural world is the so-called "estuarine zone," that area between the sea and the land; that this area protects the land from the force of the sea, moderates our weather, provides a home for water fowl and for ⅔ of all our fish and shellfish, and assists in absorbing sewage discharge by the rivers of the land; and that in order to promote the public safety, health and welfare, and to protect public and private property, wildlife a marine fisheries and the natural environment, it is necessary to preserve the ecological balance of this area and prevent its further deterioration and destruction by regulating the dredging, filling, removing or otherwise altering or polluting thereof, all to the extent and in the manner provided herein.

b. The Commissioner of Environmental Protection shall, within 2 years of the effective date of this act, make an inventory and maps of all tidal wetlands within the State. The boundaries of such wetlands shall generally define the areas that are at or below high water and shall be shown on suitable maps, which may be reproductions or aerial photographs. Each such map shall be filed in the office of the county recording officer of the county or counties in which the wetlands indicated thereon are located. Each wetland map shall bear a certificate of the commissioner to the effect that it is made and filed pursuant to this act. To be entitled to filing no wetlands map need meet the requirements of R.S. 47:1-6.

13:9A-2. Authority of commissioner to adopt, modify or repeal orders regulating, altering or polluting coastal wetlands; coastal wetlands defined

The Commissioner may from time to time, for the purpose of promoting the public safety, health and welfare, and protecting public and private property, wildlife and marine fisheries, adopt, amend, modify or repeal orders regulating, restricting or prohibiting dredging, filling, removing or otherwise altering, or polluting, coastal wetlands. For the purposes of this act the term "coastal wetlands" shall mean any bank, marsh, swamp, meadow, flat or other low land subject to tidal action in the State of New Jersey along the Delaware bay and Delaware river, Raritan bay, Barnegat bay, Sandy Hook bay, Shrewsbury river including Navesink river, Shark river, and the coastal inland waterways extending southerly from Manasquan Inlet to Cape May Harbor, or at any inlet, estuary or tributary waterway or any thereof, including those areas now or formerly connected to tidal waters whose surface is at or below an elevation of 1 foot above local extreme high water, and upon which may grow or is capable of growing some, but not necessarily all, of the following: Salt meadow grass (Spartine patens), spike grass (Distichlis spicata), black grass (Juncus gerardi), saltmarsh grass (Spartina alterniflora), saltworts (Salicornia Europaea, and Salicornia bigelovii), Sea Lavendar

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(Limonium carolinianum), saltmarsh bulrushes (Scirpus robustus and Scirpus paludosus var. atlanticus), sand spurrey (Spergularia marina), switch grass (Panicum virgatum), tall cordgrass (Spartina pectinata), hightide bush (Iva frutescens var. oraria), cattails (Typha angustifolia, and Typha latifolia), spike rush (Eleocharis rostellata), chairmaker's rush (Scirpus americana), bent grass (Agrostis palustris), and sweet grass (Hierochloe odorata). The term "coastal wetlands" shall not include any land or real property subject to the jurisdiction of the Hackensack Meadowlands Development Commission pursuant to the provisions of P.L.1968, chapter 404, sections 1 through 84 (C. 13:17-1 through C. 13:17-86).

13:9A-3. Public hearing; notice to owner; recordation of orders

The commissioner shall, before adopting, amending, modifying or repealing any such order, hold a public hearing thereon in the county in which the coastal wetlands to be affected are located, giving notice thereof to each owner having a recorded interest in such wetlands by mail at least 21 days prior thereto addressed to his address as shown in the municipal tax office records and by publication thereof at least twice in each of the 3 weeks next preceding the date of such hearing in a newspaper of general circulation in the municipality or municipalities in which such coastal wetlands are located.

Upon the adoption of any such order or any order amending, modifying or repealing the same, the commissioner shall cause a copy thereof, together with a plan of the lands affected, including reference to the filed wetlands map or maps on which the same are shown and a list of the owners of record of such lands, to be recorded in the office of the county clerk or register of deeds, where it shall be indexed and filed as a judgment, and shall mail a copy of such order and plan to each owner of record of such lands affected thereby.

13:9A-4. Regulated activity; necessity of permit to conduct; application; determination of issuance

a. For purposes of this section "regulated activity" includes but is not limited to draining, dredging, excavation or removal of soil, mud, sand, gravel, aggregate of any kind or depositing or dumping therein any rubbish or similar material or discharging therein liquid wastes, either directly or otherwise, and the erection of structures, drivings of pilings, or placing of obstructions, whether or not changing the tidal ebb and flow. "Regulated activity" shall not include continuance of commercial production of salt hay or other agricultural crops or activities conducted under section 7 of this act.[1]

b. No regulated activity shall be conducted upon any wetland without a permit.

c. Any person proposing to conduct or cause to be conducted a regulated activity upon any wetland shall file an application for a permit with the commissioner, in such form and with such information as the commissioner may prescribe. Such application shall include a detailed description of the proposed work and a map showing the area of wetland directly affected, with the location of the proposed work thereon, together with the names of the owners of record of adjacent land and known claimants of rights in or adjacent to the wetland of whom the applicant has notice. All applications, with any maps and documents relating thereto, shall be open for inspection at the office of the Department of Environmental Protection.

d. In granting, denying or limiting any permit the commissioner shall consider the effect of the proposed work with reference to the public health and welfare, marine fisheries, shell fisheries, wildlife, the protection of life and property from flood, hurricane and other natural disasters, and the public policy set forth in section 1. a. of this act.[2]

13:9A-5. Jurisdiction of violations

The Superior Court shall have jurisdiction to restrain violations of orders issued pursuant to this act.

13:9A-6. Complaint by landowner affected by order; recordation of finding

Any person having a recorded interest in land affected by any such order or permit, may, within 90 days after receiving notice thereof, file a complaint in the Superior Court to determine whether such order or permit so restricts or otherwise affects the use of his property as to deprive him of the practical use thereof and is therefore an unreasonable exercise of the police power because the order or permit constitutes the equivalent of a taking without compensation. If the court finds the order or permit to be an unreasonable exercise of the police power, the court shall enter a finding that such order or permit shall not apply to the land of the plaintiff; provided, however, that such finding shall not affect any other land than that of the plaintiff. Any party to the suit may cause a copy of such finding to be recorded forthwith in the office of the county clerk or register of deeds, where it shall be indexed and filed as a judgment.

The method provided in this section for the determination of the issue shall be exclusive, and such issue shall not be determined in any other proceeding.

13:9A-7. Application of act on powers and duties of certain state departments or agencies

No action by the commissioner under this act shall prohibit, restrict or impair the exercise or performance of the powers and duties conferred or imposed by law on the State Department of Environmental Protection, the Natural Resource Council and the State Mosquito Control Commission in said Department, the State Department of Health, or any mosquito control or other project or activity operating under or authorized by the provisions of chapter 9 of Title 26 of the Revised Statutes.1

13:9A-8. Application of act to riparian lands

Nothing in this act or any permit issued hereunder shall affect the rights of the State in, or the obligations of a riparian owner with respect to, riparian lands.

13:9A-9. Violations; penalties

Any person who violates any order by the commissioner, or violates any of the provisions of this act, shall be liable to the State for the cost of restoration of the affected wetland to its condition prior to such violation insofar as that is possible, and shall be punished by a fine of not more than $1,000.00, to be collected in accordance with the provisions of the Penalty Enforcement Law (N.J.S. 2A:58-1 et seq.).

13:9A-10. Short title

This act may be cited as "The Wetlands Act of 1970."

CHAPTER 17. HACKENSACK MEADOWLAND RECLAMATION AND DEVELOPMENT [NEW]

ARTICLE 1. PURPOSE, SHORT TITLE, DEFINITIONS

A HACKENSACK MEADOWLAND RECLAMATION AND DEVELOPMENT ACT

13:17-1. Declaration of purpose

It is hereby declared that there are approximately 21,000 acres of salt water swamps, meadows and marshes which are commonly known as meadowlands, in the lower Hackensack river basin; that extensive portions of this area have so far resisted comprehensive development because of their low elevation, exposure to tidal waters, unfavorable soil composition, and, in some instances, their distribution among many municipalities; that this land acreage is a land resource of incalculable opportunity for new jobs, homes and recreational sites, which may be lost to the State through piecemeal reclamation and unplanned development; that much of this acreage may be subject to redevelopment under section 3, Article VIII, of the State Constitution; that the orderly, comprehensive development of these areas, due to their strategic location in the heart of a vast metropolitan area with urgent needs for more space for industrial, commercial, residential, and public recreational and other uses, can no longer be deferred; that insofar as meadowlands are State-owned lands they are an asset of the fund for the support of free public schools whose integrity may not be impaired; that while the State, in the name of the people, has an obligation to assert its interests in meadowlands that are clearly State-owned, it has an equal obligation to establish a framework within which private owners may assert their interests and take title to meadowlands that are privately-owned; that these areas need special protection from air and water pollution and special arrangements for the provision of facilities for the disposal of solid waste; that the necessity to consider the ecological factors constituting the environment of the meadowlands and the need to preserve the delicate balance of nature must be recognized to avoid any artificially imposed development that would adversely affect not only this area but the entire State; that it is the purpose of this act to meet the aforementioned needs and accomplish the aforementioned objectives by providing for a commission transcending municipal boundaries and a committee representing municipal interests which will act in concert to reclaim, plan, develop and redevelop the Hackensack meadowlands; and to safeguard fully the interests of the fund for the support of free public schools, all to the extent and manner provided herein.

CHAPTER 18. PINELANDS ENVIRONMENTAL COUNCIL [NEW]

13:18–1. Creation

The Pinelands Environmental Council is hereby created as an agency of the State of New Jersey. For the purpose of complying with the provisions of Article V, Section IV, paragraph 1 of the New Jersey Constitution, the Pinelands Environmental Council is hereby allocated within the Department of Environmental Protection, but, notwithstanding said allocation, the council shall be independent of any supervision or control by the department or by the commissioner thereof.

13:18–2. Purpose

The purpose of the council shall be the protection of the water resources and other natural assets of the Pinelands region from misuse and pollution; the conservation of the scientific, educational, scenic, water resources and recreational values of the region, the encouragement of the continuation and development of compatible land uses in order to improve the over-all environmental and economic position of the area; and the preservation and promotion of the agricultural complex of the Pinelands region.

13:18–3. Development of coordinative comprehensive plan

In carrying out its purposes, the council shall provide the leadership in developing a coordinative, comprehensive plan incorporating the best thinking of Federal, State and local government and private plans. It shall encourage and assist public and private agencies and persons to undertake projects and activities in accordance with the coordinative, comprehensive plan.

13:18–4. Members; appointment; commissioner; terms of office; expenses

a. The council shall consist of 15 members composed as follows: one member of the board of chosen freeholders of the county of Burlington appointed by the director of said board; one member of the board of chosen freeholders of the county of Ocean appointed by the director of said board; three mayors, or mayors' representatives from communities within the Pinelands region to be appointed by the board of chosen freeholders of Burlington county, and three mayors, or mayors' representatives from communities within the Pinelands region to be appointed by the board of chosen freeholders of Ocean county; one citizen conservationist and one citizen sportsman who are residents of Burlington county and one citizen conservationist and one citizen sportsman who are residents of Ocean county to be appointed by the respective boards of chosen freeholders; one cranberry grower to be appointed by the American Cranberry Growers Association; one blueberry grower to be appointed by the cooperative representing the greatest number of blueberry growers within the region; and the Commissioner of Environmental Protection, or his representative.

b. The Commissioner of Environmental Protection or his representative shall serve during his term of office as such commissioner. The appointed members of the council shall serve for terms of 3 years commencing on June 1 and expiring on May 31 except that of the members first appointed the boards of chosen freeholders of Burlington and Ocean county shall by mutual agreement designate four to be appointed for terms of 1 year, five to be appointed for terms of 2 years, and five to be appointed for terms of 3 years.

c. Members shall receive no compensation for their services but shall be entitled to be reimbursed for expenses actually and necessarily incurred by them in the performance of their duties, within the limits of any appropriation therefor.

13:18–5. Organization; meetings; voting; promulgation of rules and regulations; certification of minutes

a. The council shall annually elect a chairman, vice-chairman, and secretary from its membership, who shall not be either freeholders or officials of the State of New Jersey.

b. The council shall meet no less than three times a year on dates to be determined by it. Meetings of the council may be called by the chairman of the council or upon the request of a majority of the members of the council as often as may be needed to carry out its duties, meetings shall be held within or close to the Pinelands region, and the offices of the council shall be located within the Pinelands region.

c. Each member of the council shall be entitled to one vote on all matters which may come before the council, and no action may be taken by the council on any matter affecting land or property within the region unless a majority of all the members shall approve the action.

d. The council may make rules and regulations relating to the exercise of its functions, powers and duties.

e. Three certified true copies of the minutes of every meeting of the council shall be forthwith delivered, by and under the certification of the secretary thereof, to the Governor.

13:18–6. Boundaries of region

The Pinelands region shall consist of the following:

In Ocean County: All of Little Egg Harbor, Eagleswood, Stafford, Union, Ocean and Lacey Townships located westwardly of the Garden State Parkway, all of Manchester Township lying within the Lebanon State Forest, and all additional portions of Manchester Township lying southwardly of the line of the right-of-way of the Toms River branch of the Penn Central Railroad running westwardly from its junction with the Berkeley Township line to the Fort Dix Military Reservation boundary, and thence westwardly along the southern boundary of the military reservation to the Lebanon State Forest.

In Burlington County: All of Washington and Bass River Townships, all of Medford, Shamong and Tabernacle Townships lying within the Wharton State Forest, and all of Pemberton Township lying within the Lebanon State Forest. Also included would be all of Woodland Township except for that portion lying westwardly of a straight line running northwardly from the intersection of the Woodland-Tabernacle Township line and Burlington County Route 532 to the center of the Four Mile Circle.

This act shall not be construed to apply to lands owned by the State of New Jersey.

13:18–7. Powers

The council shall have the following powers:

a. To adopt and use a corporate seal; to sue and be sued; to execute contracts and other instruments; to acquire, hold and dispose of real or personal property; to appoint and remove officers, agents and employees and determine their qualifications, duties and compensation; and to retain or employ counsel, private consultants, and independent contractors.

b. To provide assistance and encouragement for sound, coordinated planning and land use control throughout the Pinelands region to carry out the purposes of the council, to maintain liaison with any local, county, regional, State or Federal agencies having jurisdiction within the region and to give advice, guidance and direction to public and private agencies operating within the region and to encourage and assist compliance with the coordinative, comprehensive plan, including environmental considerations, to be adopted by the council under section 8 of this act.[1]

c. To solicit, receive, hold, invest and administer appropriations, gifts and donations of any kind from any source.

d. To conduct such investigations, studies and hearings as it considers reasonably necessary for the discharge of its duties and responsibilities under this act.

e. To make recommendations to the Governor and the Legislature of the State of New Jersey.

f. To prepare, publish and disseminate information or reports concerning problems, needs and resources of the Pinelands region.

g. To do such other things, incidental to the express powers granted to it by this act, as may be necessary or proper for the effective performance of its functions.

13:18-8. . Development of coordinated comprehensive plan for scenic, historic, recreational and natural resources, and commercial and residential use

The council shall provide the leadership in developing a coordinated, comprehensive plan for the preservation, enhancement and development of the scenic, historic, recreational and natural resources of the Pinelands region and for the encouragement of compatible development of the commercial, industrial, agricultural, residential and other resources of the region.

13:18-9. Contents of plan

a. In order to promote coordination and continuity of planning by all parties within the region and to avoid when possible uncertainty or delay in the effectuation of public and private projects within the region, the comprehensive plan shall provide for the establishment of areas recommended primarily for scenic, historic, scientific, recreational, commercial, industrial, agricultural, residential or other use or for a combination of such uses.

b. Such plan may include recommendations for public or private projects of major benefit to the region.

c. Such plan may include recommendations for the establishment by the appropriate units of government of zoning and other land use and environmental control measures, and for the heightening of public awareness and acceptance of such measures.

13:18-10. Plan; formulation in consultation and cooperation with affected agencies and persons; hearings; time of adoption

a. The council shall formulate such coordinative, comprehensive plan in consultation and cooperation with affected public and private agencies and persons, including particularly representatives of units of local government. The council may invite any unit of local government within the Pinelands region to submit to the council a recommended plan or portion thereof for the area within the jurisdiction of such local government, and may invite any other public agency to submit to the council a plan or recommendations concerning matters within the jurisdiction of such agency. The council shall advise and consult with such local government or public agency concerning such plan or recommendations.

b. The council may appoint subcommittees, advisory committees or citizen's committees for consideration of particular aspects or portions of the plan.

c. The council shall hold public hearings before the adoption of the plan or any part or substantial revision thereof.

d. In order to allow adequate time for full participation in the preparation of the plan, the plan or any part thereof shall not be adopted until at least 1 year after the effective date of this act.

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CHAPTER 19. [COASTAL AREA FACILITY REVIEW ACT] (NEW)

13:19-1. Short title

This act shall be known and may be cited as the "Coastal Area Facility Review Act."

13:19-2. Legislative findings

The Legislature finds and declares that New Jersey's bays, harbors, sounds, wetlands, inlets, the tidal portions of fresh, saline or partially saline streams and tributaries and their adjoining upland fastland drainage area nets, channels, estuaries, barrier beaches, near shore waters and intertidal areas together constitute an exceptional, unique, irreplaceable and delicately balanced physical, chemical and biologically acting and interacting natural environmental resource called the coastal area, that certain portions of the coastal area are now suffering serious adverse environmental effects resulting from existing facility activity impacts that would preclude or tend to preclude those multiple uses which support diversity and are in the best long-term, social, economic, aesthetic and recreational interests of all people of the State; and that, therefore, it is in the interest of the people of the State that all of the coastal area should be dedicated to those kinds of land uses which promote the public health, safety and welfare, protect public and private property, and are reasonably consistent and compatible with the natural laws governing the physical, chemical and biological environment of the coastal area.

It is further declared that the coastal area and the State will suffer continuing and ever-accelerating serious adverse economic, social and aesthetic effects unless the State assists, in accordance with the provisions of this act, in the assessment of impacts, stemming from the future location and kinds of facilities within the coastal area, on the delicately balanced environment of that area.

The Legislature further recognizes the legitimate economic aspirations of the inhabitants of the coastal area and wishes to encourage the development of compatible land uses in order to improve the overall economic position of the inhabitants of that area within the framework of a comprehensive environmental design strategy which preserves the most ecologically sensitive and fragile area from inappropriate development and provides adequate environmental safeguards for the construction of any facilities in the coastal area.

13:19-3. Definitions

For the purposes of this act, unless the context clearly requires a different meaning, the following words shall have the following meanings:

a. "Commissioner" means the State Commissioner of Environmental Protection.

b. "Department" means the State Department of Environmental Protection.

c. "Facility" includes any of the facilities designed or utilized for the following purposes:

(1) Electric power generation—
Oil, gas, or coal fired or any combination thereof.
Nuclear facilities.
(2) Food and food byproducts—
Beer, whiskey and wine production.
Fish processing, including the production of fish meal and fish oil.

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Slaughtering, blanching, cooking, curing, and pickling of meats and poultry.

Trimming, culling, juicing, and blanching of fruits and vegetables.

Animal matter rendering plants.

Operations directly related to the production of leather or furs such as, but not limited to, unhairing, soaking, deliming, baiting, and tanning.

Curing and pickling of fruits and vegetables.

Pasteurization, homogenization, condensation, and evaporation of milk and cream to produce cheeses, sour milk, and related products.

Coffee bean and cocoa bean roasting.

(3) Incineration wastes—

Municipal wastes (larger than or equal to 50 tons per day).

Automobile body (20 automobiles per hour or larger).

(4) Paper production—

Pulp mills.

Paper mills.

Paperboard mills.

Building paper mills.

Building board mills.

(5) Public facilities and housing—

Sanitary landfills.

Waste treatment plants (sanitary sewage).

Road, airport, or highway construction.

New housing developments of 25 or more dwelling units or equivalent.

Expansion of existing developments by the addition of 25 or more dwelling units or equivalent.

(6) Agri-chemical production—

Pesticides manufacture and formulation operations or either thereof.

Superphosphate animal feed supplement manufacture.

Production of normal superphosphate.

Production of triple superphosphate.

Production of diammonium phosphate.

(7) Inorganic acids and salts manufacture—

Hydrofluoric acid and common salts.

Hydrochloric acid and common salts.

Nitric acid and common salts.

Sulfuric acid and common salts.

Phosphoric acid and common salts.

Chromic acid, including chromate and dichromate salts.

(8) Mineral products—

Asphalt batching and roofing operations including the preparation of bituminous concrete and concrete.

Cement production, including Portland, natural, masonry, and pozzolan cements.

Coal cleaning.

Clay, clay mining, and fly-ash sintering.

Calcium carbide production.

Stone, rock, gravel, and sand quarrying and processing.

Frit and glass production.

Fiberglass production.

Slag, rock and glass wool production (mineral wool).

Lime production, including quarrying.

Gypsum production, including quarrying.

Perlite manufacturing, including quarrying.

Asbestos fiber production.

(9) Chemical processes—

Ammonia manufacture.

Chlorine manufacture.

Caustic soda production.

Carbon black and charcoal production, including channel, furnace, and thermal processes.

Varnish, paint, lacquer, enamel, organic solvent, and inorganic or organic pigment manufacturing or formulating.

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Synthetic resins or plastics manufacture including, but not limited to, alkyd resins, polyethylene, fluorocarbons, polypropylene, and polyvinylchloride.

Sodium carbonate manufacture.

Synthetic fibers production including, but not limited to, semisynthetics such as viscose, rayon, and acetate, and true synthetics such as, but not limited to, nylon, orlon, and dacron, and the dyeing of these semi and true synthetics.

Synthetic rubber manufacture, including but not limited to, butadiene and styrene copolymers, and the reclamation of synthetic or natural rubbers.

The production of high and low explosives such as, but not limited to, TNT and nitrocellulose.

Soap and detergent manufacturing, including but not limited to, those synthetic detergents prepared from fatty alcohols or linear alkylate.

Elemental sulfur recovery plants not on the premises where petroleum refining occurs.

Used motor or other oil or related petroleum product reclamation operations.

Petroleum refining, including but not limited to, distillation, cracking, reforming, treating, blending, polymerization, isomerization, alkylation and elemental sulfur recovery operations.

Organic dye and dye intermediate manufacturing.

Hydrogen cyanide or cyanide salts manufacture or use.

Glue manufacturing operations.

Manufacturing, fabricating, or processing medicinal and pharmaceutical products including the grading, grinding, or milling of botanicals.

(10) Storage—

Bulk storage, handling, and transfer facilities for crude oil, gas and finished petroleum products not on the premises where petroleum refining occurs.

Bulk storage, handling, transfer and manufacturing facilities of gas manufactured from inorganic and organic materials including coal gas, coke oven gas, water gas, producer, and oil gases.

(11) Metallurgical processes—

Production of aluminum oxide and aluminum metal and all common alloys, such as those with copper, magnesium, and silicon.

Production of titanium metal, salts, and oxides.

Metallurgical coke, petroleum coke, and byproduct coke manufacturing.

Copper, lead, zinc, and magnesium smelting and processing.

Ferroalloys manufacture such as, but not limited to, those combined with silicon, calcium, manganese and chrome.

Integrated steel and iron mill operations including, but not limited to, open hearth, basic oxygen, electric furnace, sinter plant, and rolling, drawing, and extruding operations.

Melting, smelting, refining, and alloying of scrap or other substances to produce brass and bronze ingots.

Gray iron foundry operations.

Steel foundry operations.

Beryllium metal or alloy production, including rolling, drawing and extruding operations.

Operations involving silver, arsenic, cadmium, copper, mercury, lead, nickel, chromium, and zinc including, but not limited to, production, recovery from scrap or salvage, alloy production, salt formation, electroplating, anodizing, and metallo-organics compound products preparation.

Stripping of oxides from and the cleaning of metals prior to plating, anodizing, or painting.

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(12) Miscellaneous—

Operations involving the scouring, desizing, cleaning, bleaching, and dyeing of wool.

Wood preserving processes which use coal or petroleum based products such as, but not limited to, coal tars and/or creosotes.

Manufacture, use, or distillation of phenols, cresols, or coal tar materials.

Manufacture of lead acid storage batteries and/or storage batteries produced from other heavy metals, such as nickel or cadmium.

Installation of above or underground pipelines designed to transport petroleum, natural gas, and sanitary sewage.

Operations involving the dyeing, bleaching, coating, impregnating, or glazing of paper.

Dyeing, bleaching, and printing of textiles other than wool. Chemical finishing for water repelling, fire resistance, and mildew proofing, including preshrinking, coating and impregnating.

Sawmill and planing mill operations.

Marine terminal and cargo handling facilities.

d. "Person" means and shall include corporations, companies, associations, societies, firms, partnerships and joint stock companies as well as individuals and governmental agencies.

e. "Governmental agencies" means the Government of the United States, the State of New Jersey, or any other states, their political subdivisions, agencies, or instrumentalities thereof, and interstate agencies.

13:19–5. Construction of facility in coastal area; permit; exemptions

No person shall construct or cause to be constructed a facility in the coastal area until he has applied for and received a permit issued by the commissioner; however, the provisions of this act shall not apply to facilities for which on-site construction, including site preparation, was in process on or prior to the effective date of this act.

13:19–6. Application for permit; form; contents

Any person proposing to construct or cause to be constructed a facility in the coastal area shall file an application for a permit with the commissioner, in such form and with such information as the commissioner may prescribe. The application shall include an environmental impact statement as described in this act.

13:19–7. Environmental impact statement

The environmental impact statement shall provide the information needed to evaluate the effects of a proposed project upon the environment of the coastal area.

The statement shall include:

a. An inventory of existing environmental conditions at the project site and in the surrounding region which shall describe air quality, water quality, water supply, hydrology, geology, soils, topography, vegetation, wildlife, aquatic organisms, ecology, demography, land use, aesthetics, history, and archeology; for housing, the inventory shall describe water quality, water supply, hydrology, geology, soils and topography;

b. A project description which shall specify what is to be done and how it is to be done, during construction and operation;

c. A listing of all licenses, permits or other approvals as required by law and the status of each;

d. An assessment of the probable impact of the project upon all topics described in a.;

e. A listing of adverse environmental impacts which cannot be avoided;

f. Steps to be taken to minimize adverse environmental impacts during construction and operation, both at the project site and in the surrounding region;

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g. Alternatives to all or any part of the project with reasons for their acceptability or nonacceptability;

h. A reference list of pertinent published information relating to the project, the project site, and the surrounding region.

13:19–8. Application; declaration of completeness; time of hearing

a. Within 30 days following receipt of an application, the commissioner shall notify the applicant in writing regarding its completeness. The commissioner may declare the application to be complete for filing or may notify the applicant of specific deficiencies. The commissioner, within 15 days following the receipt of additional information to correct deficiencies, shall notify the applicant of the completeness of the amended application. The application shall not be considered to be filed until it has been declared complete by the commissioner.

b. The commissioner, within 15 days of declaring the application complete for filing, shall set a date for the hearing. The date for the hearing shall be set not later than 60 days after the application is declared complete for filing.

13:19–9. Hearing; submission of additional information

a. The commissioner, or a member of the department designated by him, shall hold a hearing to afford interested parties standing and the opportunity to present, orally or in writing, both their position concerning the application and any data they may have developed in reference to the environmental effects of the proposed facility.

b. The commissioner, within 15 days after the hearing, may require an applicant to submit any additional information necessary for the complete review of the application.

13:19–10. Issuance of permit; grounds

The commissioner shall review filed applications, including the environmental impact statement and all information presented at public hearings. He shall issue a permit only if he finds that the proposed facility:

a. Conforms with all applicable air, water and radiation emission and effluent standards and all applicable water quality criteria and air quality standards.

b. Prevents air emissions and water effluents in excess of the existing dilution, assimilative, and recovery capacities of the air and water environments at the site and within the surrounding region.

c. Provides for the handling and disposal of litter, trash, and refuse in such a manner as to minimize adverse environmental effects and the threat to the public health, safety, and welfare.

d. Would result in minimal feasible impairment of the regenerative capacity of water aquifers or other ground or surface water supplies.

e. Would cause minimal feasible interference with the natural functioning of plant, animal, fish, and human life processes at the site and within the surrounding region.

f. Is located or constructed so as to neither endanger human life or property nor otherwise impair the public health, safety, and welfare.

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g. Would result in minimal practicable degradation of unique or irreplaceable land types, historical or archeological areas, and existing scenic and aesthetic attributes at the site and within the surrounding region.

13:19–11. Denial of permit or conditional permit; additional grounds; nuclear electricity generating facility

Notwithstanding the applicant's compliance with the criteria listed in section 10 of this act, if the commissioner finds that the proposed facility would violate or tend to violate the purpose and intent of this act as specified in section 2, or if the commissioner finds that the proposed facility would materially contribute to an already serious and unacceptable level of environmental degradation or resource exhaustion, he may deny the permit application, or he may issue a permit subject to such conditions as he finds reasonably necessary to promote the public health, safety and welfare, to protect public and private property, wildlife and marine fisheries, and to preserve, protect and enhance the natural environment. In addition, the construction and operation of a nuclear electricity generating facility shall not be approved by the commissioner unless he shall find that the proposed method for disposal of radioactive waste material to be produced or generated by such facility will be safe, conforms to standards established by the Atomic Energy Commission and will effectively remove danger to life and the environment from such waste material.

13:19–12. Notice of denial or grant of permit; time; statement of reasons

The commissioner shall notify the applicant within 60 days after the hearing as to the granting or denial of a permit. The reasons for granting or denying the permit shall be stated. In the event the commissioner requires additional information as provided for in section 9, he shall notify the applicant of his decision within 90 days following the receipt of the information.

13:19–13. Coastal area review board; power to hear appeals

There is hereby created the Coastal Area Review Board, in but not of the Department of Environmental Protection, which shall consist of three voting members who shall be the Commissioner of Environmental Protection or his designated representative, the Commissioner of Labor and Industry or his designated representative and the Commissioner of Community Affairs or his designated representative. No vote on a permit request shall be taken unless all voting members are present.

The Coastal Area Review Board shall have the power to hear appeals from decisions of the commissioner pursuant to section 12. The board may affirm or reverse the decision of the commissioner with respect to applicability of any provision of this act to a proposed use; it may modify any permit granted by the commissioner, grant a permit denied by him, deny a permit granted by him, or confirm his grant of a permit. The board shall review filed applications, including the environmental impact statement and all information presented at public hearings and any other information the commissioner makes available to the board prior to the affirmation or reversal of a decision of the commissioner.

N.J. (cont.)

13:19-14. Transfer of permit with conveyance by applicant

In the event of rental, lease, sale or other conveyances by an applicant to whom a permit is issued, such permit, with any conditions, shall be continued in force and shall apply to the new tenant, lessee, owner, or assignee so long as there is no change in the nature of the facility set forth in the original application.

13:19-15. Effect of denial on future submittal of new application

The denial of an application shall in no way adversely affect the future submittal of a new application.

13:19-16. Environmental inventory; alternate long-term environmental management strategies; environmental design; presentation to Governor and legislature

The commissioner shall, within 2 years of the taking effect of this act, prepare an environmental inventory of the environmental resources of the coastal area and of the existing facilities and land use developments within the coastal area and an estimate of the capability of the various area within the coastal area to absorb and react to man-made stresses. The commissioner shall, within 3 years of the taking effect of this act, develop from this environmental inventory alternate long-term environmental management strategies which take into account the paramount need for preserving environmental values and the legitimate need for economic and residential growth within the coastal area. The commissioner shall, within 4 years of the taking effect of this act, select from the alternate environmental management strategies an environmental design for the coastal area. The environmental design shall be the approved environmental management strategy for the coastal area and shall include a delineation of various areas appropriate for the development of residential and industrial facilities of various types, depending on the sensitivity and fragility of the adjacent environment to the existence of such facilities. The environmental inventory, the alternate long-term environmental management strategies and the environmental design for the coastal area shall be presented to the Governor and the Legislature within the time frame indicated herein.

13:19-17. Rules and regulations

The department is hereby authorized to adopt, amend and repeal rules and regulations to effectuate the purposes of this act.

13:19-18. Violations; injunctions; penalty

If any person violates any of the provisions of this act, rule, regulation or order promulgated or issued pursuant to the provisions of this act, the department may institute a civil action in the Superior Court for injunctive relief to prohibit and prevent such violation or violations and said court may proceed in a summary manner. Any person who violates any of the provisions of this act, rule, regulation or order promulgated or issued pursuant to this act shall be liable to a penalty of not more than $3,000.00 to be collected in a summary proceeding or in any case before a court of competent jurisdiction

wherein injunctive relief has been requested. If the violation is of a continuing nature, each day during which it continues shall constitute an additional, separate and distinct offense. The department is hereby authorized and empowered to compromise and settle any claim for a penalty under this section in such amount in the discretion of the department as may appear appropriate and equitable under the circumstances.

13:19-19. Act as supplemental and additional to other laws; application of Wetlands Act

The provisions of this act shall not be regarded as to be in derogation of any powers now existing and shall be regarded as supplemental and in addition to powers conferred by other laws, including municipal zoning authority. The provisions of this act shall not apply to those portions of the coastal areas regulated pursuant to enforceable orders under the Wetlands Act, C. 13:9A-1 et seq., section 16 however shall apply to the entire area within the boundaries described herein.

13:19-20. Construction of act

This act shall be liberally construed to effectuate the purpose and intent thereof.

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New York

N. Y. Environmental Conservation

ARTICLE 3—DEPARTMENT OF ENVIRONMENTAL CONSERVATION; GENERAL FUNCTIONS, POWERS, DUTIES AND JURISDICTION

§ 3-0301. General functions, powers and duties of the department and the commissioner.—1. It shall be the responsibility of the department, in accordance with such existing provisions and limitations as may be elsewhere set forth in law, by and through the commissioner to carry out the environmental policy of the state set forth in section 1-0101 of this chapter. In so doing, the commissioner shall have power to:

a. Coordinate and develop policies, planning and programs related to the environment of the state and regions thereof;

b. Promote and coordinate management of water, land, *fish, wildlife* and air resources to assure their protection, enhancement, provision, allocation, and balanced utilization consistent with the environmental policy of the state *and take into account the cumulative impact upon all of such resources in making any determination in connection with any license, order, permit, certification or other similar action or promulgating any rule or regulation, standard or criterion;*

bb. Prescribe the qualifications for operators of public sewage treatment plants.

c. Provide for the propagation, protection, and management of fish and other aquatic life and wildlife and the preservation of endangered species;

d. Provide for the care, custody, and control of the forest preserve;

e. Provide for the protection and management of marine and coastal resources and of wetlands, estuaries and shorelines;

f. Foster and promote sound practices for the use of agricultural land, river valleys, open land, and other areas of unique value;

g. Encourage industrial, commercial, residential and community development which provides the best usage of land areas, maximizes environmental benefits and minimizes the effects of less desirable environmental conditions;

h. Assure the preservation and enhancement of natural beauty and man-made scenic qualities,

i. Provide for prevention and abatement of all water, land and air pollution including but not limited to that related to particulates, gases, dust, vapors, noise, radiation, odor, nutrients and heated liquids;

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N.Y. (cont.)

j. Promote control of pests and regulate the use, storage and disposal of pesticides and other chemicals which may be harmful to man, animals, plant life, or natural resources;

k. Promote control of weeds and aquatic growth, develop methods of prevention and eradication, and regulate herbicides;

l. Provide and recommend methods for *the recovery, recycling and reuse; or, where recycling and reuse are not possible, the* disposal of solid wastes, including domestic and industrial refuse, junk cars, litter and debris consistent with sound health, scenic, environmental quality, and land use practices;

m. Prevent pollution through the regulation of the storage, handling and transport of solids, liquids and gases which may cause or contribute to pollution;

n. Promote restoration and reclamation of degraded or despoiled areas and natural resources;

o. Encourage recycling and reuse of products to conserve resources and reduce waste products;

p. Administer properties having unique natural beauty, wilderness character, or geological, ecological or historical significance dedicated by law to the state nature and historical preserve;

q. Formulate guides for measuring presently unquantified environmental values and relationships so they may be given appropriate consideration along with social, economic, and technical considerations in decision-making;

r. Encourage and undertake scientific investigation and research on the ecological process, pollution prevention and abatement, recycling and reuse of resources, and other areas essential to understanding and achievement of the environmental policy;

s. Assess new and changing technology and development patterns to identify long-range implications for the environment and encourage alternatives which minimize adverse impact;

t. Monitor the environment to afford more effective and efficient control practices, to identify changes and conditions in ecological systems and to warn of emergency conditions;

u. Encourage activities consistent with the purposes of this chapter by advising and assisting local governments, institutions, industries, and individuals;

v. Undertake an extensive public information and education program to inform and involve other public and private organizations and groups and the general public in the commitment to the principles and practices of environmental conservation and develop programs for the teaching by others of such principles and practices;

N.Y. (cont.)

w. Cooperate with the executive, legislative and planning authorities of the United States, neighboring states and their municipalities and the Dominion of Canada in furtherance of the policy of this state as set forth in section 1-0101;

x. Exercise and perform such other functions, powers and duties as shall have been or may be from time to time conveyed or imposed by law, including, but not limited to, all the functions, powers and duties assigned and transferred to the department from the Department of Health, Conservation Department, Department of Agriculture and Markets, and Office for Local Government in the Executive Department by chapter 140 of the laws of 1970.

y. To prevent and control air pollution emergencies, as defined in subdivision 1 of section 1-0303 hereof. In exercising such prevention and control the department and the commissioner may limit the consumption of fuels and use of vehicles, curtail or require the cessation of industrial processes and limit or require the cessation of incineration and open burning, and take any other action he may deem necessary to prevent and/or control air pollution emergencies. The department and commissioner shall adopt and implement by rule and regulation a plan designed to prevent and control such air pollution emergencies.

z. Within amounts appropriated to the department, to contract, outside the city of New York with federally-funded nonprofit organizations that are organized for the purpose of beautification of highways, parks and recreation areas and employ persons sixty years of age or older whose net annual income does not exceed one thousand dollars to carry out such activities. The contract shall name the organization, the amount and manner of payment for the service to be rendered, nature of such service, the rendering of a verified account of the disbursements and verified or certified vouchers therefor attached, a refund of any unused amount, and such other conditions upon the use thereof as may be deemed proper.

zz. Within amounts appropriated to the department, to contract with Green Thumb Environmental Beautification, Incorporated, a non-profit organization that is organized for the purpose of environmental beautification and employs persons sixty years of age or older whose annual income does not exceed[1] three thousand one hundred dollars for an individual living alone or one thousand three hundred thirty dollars for an individual living in another's home,[2] five thousand four hundred dollars for a couple living alone or two thousand one hundred seventy-one dollars for a couple living in another's home, and whose resources not counting a home, car and personal effects of a reasonable value shall not exceed one thousand five hundred dollars for an individual and two thousand two hundred fifty dollars for a couple to carry out such activities. The contract shall name the organization, the amount and manner of payment for the service to be rendered, the nature of such service, the rendering of a verified account of the disbursements with verified or certified vouchers therefor attached, a refund of any unused amount, and such other conditions upon the use thereof as may be deemed proper.

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N.Y. (cont.)

2. To further assist in carrying out the policy of this state as provided in section 1-0101 of the chapter the department, by and through the commissioner, shall be authorized to:

a. With the advice and approval of the board, adopt, amend or repeal environmental standards, criteria and those rules and regulations having the force and effect of standards and criteria to carry out the purposes and provisions of this act. Upon approval by the board of any such environmental standard, criterion, rule or regulation or change thereto, it shall become effective thirty days after being filed with the Secretary of State for publication in the "Official Compilation of Codes, Rules, and Regulations of the State of New York" published pursuant to section 102 of the Executive Law. This provision shall not in any way restrict the commissioner in the exercise of any function, power or duty transferred to him and heretofore authorized to be exercised by any other department acting through its commissioner to promulgate, adopt, amend or repeal any standards, rules and regulations. No such environmental standards, criterion, rule or regulation or change thereto shall be proposed for approval unless a public hearing relating to the subject of such standard shall be held by the commissioner prior thereto not less than 30 days after date of notice thereof, any provision of law to the contrary notwithstanding. Notice shall be given by public advertisement of the date, time, place and purpose of such hearing. Members of the board shall be entitled to participate in such hearing and opportunity to be heard by the commissioner with respect to the subject thereof shall be given to the public.

b. Enter into contracts with any person to do all things necessary or convenient to carry out the functions, powers and duties of the department.

c. Review and appraise programs and activities of state departments and agencies in light of the policy set forth in section 1-0101 of this chapter for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy and to make recommendations to such departments and agencies with respect thereto, including but not limited to, environmental guidelines for their use.

d. Consult with and co-operate with:

(1) Officials of departments and agencies of the state having duties and responsibilities concerning the environment;

(2) Officials and representatives of any public benefit corporation in the state;

(3) Officials and representatives of the federal government, of other states and of interstate agencies on problems affecting the environment of this state;

(4) Persons, organizations and groups, public and private, utilizing, served by, interested in or concerned with the environment in the state;

(5) The appropriate committee or committees of the Legislature.

e. Appear and participate in proceedings before any federal regulatory agency involving or affecting the purposes of this department.

f. Undertake any studies, inquiries, surveys or analyses it may deem relevant through the personnel of the department or in co-operation with any public or private agencies, including educational, civic and research organizations, colleges, universities, institutes or foundations, for the accomplishment of the purposes of the department.

g. Enter and inspect any property or premises for the purpose of investigating either actual or suspected sources of pollution or contamination or for the purpose of ascertaining compliance or noncompliance with any law, rule or regulation which may be promulgated pursuant to this chapter. Any information relating to secret processes or methods of manufacture shall be kept confidential.

h. Conduct investigations and hold[1] *hearings* and compel the attendance of witnesses and the production of accounts, books,[2] documents, *and nondocumentary evidence* by the issuance of a subpoena.

i. Advise and cooperate with municipal, county, regional and other local agencies and officials within the state, to carry out the purposes of chapter 140 of the laws of 1970.

j. Act as the official agency of the state in all matters affecting the purposes of the department under any federal laws now or hereafter to be enacted, and as the official agency of a county, town, city, village or authority in connection with the grant or advance of any federal or other funds or credits to the state or through the state to its local governing bodies for the purposes of chapter 140 of the laws of 1970.

k. Report from time to time to the Governor and make an annual report to the Governor and the Legislature.

l. Formulate and execute contracts, keep accounts, record personnel data, acquire real or personal property, including acquisition by condemnation, appropriation, gift grant, devise or bequest, adjust claims, compile statistics and engage in research opportunities; all according to the statutes or department orders and regulations in such cases made and provided.

m. Adopt such rules, regulations and procedures as may be necessary, convenient or desirable to effectuate the purposes of chapter 140 of the laws of 1970.

n. Study, monitor, control and regulate pollution from motor vehicle exhaust emissions.

o. When requested to do so by another state with which New York has reciprocally agreed to provide personnel and equipment, provide such personnel and equipment for use in suppression of forest fires upon lands within such other state.

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N.Y. (cont.)

ARTICLE 8 [NEW]

Environmental Quality Review

§ 8-0101. Purpose.—It is the purpose of this act to declare a state policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and enhance human and community resources; and to enrich the understanding of the ecological systems, natural, human and community resources important to the people of the state.

HISTORY: Add. L 1975, ch 612, eff June 1, 1976

§ 8-0103. Legislative findings and declaration.—The legislature finds and declares that:

1. The maintenance of a quality environment for the people of this state that at all times is healthful and pleasing to the senses and intellect of man now and in the future is a matter of statewide concern.

2. Every citizen has a responsibility to contribute to the preservation and enhancement of the quality of the environment.

3. There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the state, including their enjoyment of the natural resources of the state.

4. Enhancement of human and community resources depends on a quality physical environment.

5. The capacity of the environment is limited, and it is the intent of the legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds from being reached.

6. It is the intent of the legislature that to the fullest extent possible the policies, statutes, regulations, and ordinances of the state and its political subdivisions should be interpreted and administered in accordance with the policies set forth in this article

7. It is the intent of the legislature that the protection and enhancement of the environment, human and community resources shall be given appropriate weight with social and economic considerations in public policy. Social, economic, and environmental factors shall be considered together in reaching decisions on proposed activities.

8. It is the intent of the legislature that all agencies conduct their affairs with an awareness that they are stewards of the air, water, land, and living resources, and that they have an obligation to protect the environment for the use and enjoyment of this and all future generations.

9. It is the intent of the legislature that all agencies which regulate activities of individuals, corporations, and public agencies which are found to affect the quality of the environment shall regulate such activities so that major consideration is given to preventing environmental damage.

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§ 8-0105. Definitions.—Unless the context otherwise requires, the definitions in this section shall govern the construction of the following terms as used in this article:

1. "Agency" means any state department, agency, board, public benefit corporation, public authority or commission and any local agency, board, district, commission or governing body, including any city, county, and other political subdivision of the state.

2. "Actions" include:

(i) projects or activities directly undertaken by any agency; or supported in whole or part through contracts, grants, subsidies, loans, or other forms of funding assistance from one or more agencies; or involving the issuance to a person of a lease, permit, license, certificate or other entitlement for use or permission to act by one or more agencies;

(ii) policy, regulations, and procedure-making.

3. "Actions" do not include:

(i) enforcement proceedings or the exercise of prosecutorial discretion in determining whether or not to institute such proceedings;

(ii) official acts of a ministerial nature, involving no exercise of discretion;

(iii) maintenance or repair involving no substantial changes in existing structure or facility.

4. "Environment" means the physical conditions which will be affected by a proposed action, including land, air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance, existing patterns of population concentration, distribution, or growth, and existing community or neighborhood character.

5. "Environmental impact statement" means a detailed statement setting forth the matters specified in section 8-0109 of this article. It includes any comments on a draft environmental statement which are received pursuant to section 8-0109 of this article, and the agency's response to such comments, to the extent that such comments raise issues not adequately resolved in the draft environmental statement.

6. "Draft environmental impact statement" means a preliminary statement prepared pursuant to section 8-0109 of this article.

§ 8-0107. Agency implementation.—All agencies shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this article, and shall recommend or effect such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this article. They shall carry out its terms with minimum procedural and administrative delay, shall avoid unnecessary duplication of reporting and review requirements by providing, where feasible, for combined or consolidated proceedings, and shall expedite all proceedings hereunder in the interests of prompt review.

§ 8-0109. Preparation of environmental impact statement.—1. Agencies shall use all practicable means to realize the policies and goals set forth in this article, and to the maximum extent practicable shall act and choose alternatives which, consistent with social, economic and other essential considerations of state policy, minimize or avoid adverse environmental effects, including effects revealed in the environmental impact statement process.

2. All agencies shall prepare, or cause to be prepared by contract or otherwise an environmental impact statement on any action they propose or approve which may have a significant effect on the environment. . . .

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N.Y. (cont.)

ARTICLE 15—WATER RESOURCES

TITLE 1—SHORT TITLE; STATEMENT OF POLICY; DEFINITIONS; GENERAL PROVISIONS

§ 15-0101. Short title

This article 15 of the Environmental Conservation Law shall be known as the Water Resources Law. However, sections of the Environmental Conservation Law falling within this article 15 may be cited either as such sections of the Environmental Conservation Law or as such sections of the Water Resources Law.

§ 15-0103. Legislative findings

Article 15 shall be construed and administered in the light of the following findings of fact:

1. The sovereign power to regulate and control the water resources of this state ever since its establishment has been and now is vested exclusively in the state of New York, except to the extent of any delegation of power to the United States;

2. New York State has been generously endowed with water resources which have contributed and continue to contribute greatly to the position of preeminence attained by New York in population, agriculture, commerce, trade, industry and outdoor recreation;

3. Adequate and suitable water for water supply, domestic, municipal, industrial, agricultural and commercial uses, power, irrigation, transportation, fire protection, sewage and waste assimilation, the growth of forests, maintenance of fish and wildlife, recreational enjoyment and other uses is essential to the health, safety and welfare of the people and economic growth and prosperity of the state;

4. In recent years our population growth and the development and use of new technology and processes have resulted in demands for more water and the equitable use thereof for these purposes;

5. In recent years recreational activities are making new and greater demands on lakes and streams of the state for boating, fishing, bathing and water sports, and the lands adjacent thereto for campsites, access areas and public beaches;

6. The growth of cities and urban areas and their expansion into formerly rural areas has in many cases resulted in the filling in, diversion and destruction of water courses, necessarily destroying aquatic habitat and lessening supplies of water for multiple use purposes;

7. Increased motorized highway travel and public safety are requiring the construction of new, better and larger public highways which may alter the water ways of the state and encroach upon water courses and affect their uses;

8. All fish, game, wildlife, shellfish, crustacea and protected insects in the state, except those legally acquired and held in private ownership, are owned by the state and held for the use and enjoyment of the people of the state, and the state has a responsibility to preserve, protect and conserve such terrestrial and aquatic resources from destruction and damage and to promote their natural propagation;

9. The unreasonable, uncontrolled and unnecessary interference with or defilement and disturbance of water courses create hazards to the health, safety and welfare of the people of the state causing great economic loss by erosion of soil, increased costs of water purification and treatment, the loss of crop lands and forests by flooding, the destruction and failure of natural propagation of fish and aquatic resources and the loss of water

for domestic, industrial, navigational, municipal, agricultural, recreational and other beneficial uses and purposes;

10. The unreasonable and unregulated (a) interference with the channels and beds of lakes and streams by construction of dams, roads and other structures, (b) alteration of water courses and gradients, (c) impounding of water, (d) dredging and filling in of stream beds, and the unreasonable removal of sand, gravel or other materials from streams, and by other action, have resulted in pollution of such waters, increase in turbidity and the deposit of silt and debris, irregular variations of velocity, temperature and levels of water, erosion of banks and uplands and the flooding of valuable lands;

11. The department, and two of its predecessors, the Water Resources Commission and the Water Pollution Control Board, has classified substantially all of the waters of the state;

12. The department, pursuant to title 11 of article 15 of the Environmental Conservation Law, is continuing the work of its predecessor, the Water Resources Commission in undertaking comprehensive planning for the protection, conservation and development of the water resources of the state;

13. It is in the best interest of the state that provision be made for the regulation and supervision of activities that deplete, defile, damage or otherwise adversely affect the waters of the state and land resources associated therewith.

§ 15-0105. Declaration of policy

In recognition of its sovereign duty to conserve and control its water resources for the benefit of all inhabitants of the state, it is hereby declared to be the public policy of the state of New York that:

1. The regulation and control of the water resources of the state of New York be exercised only pursuant to the laws of this state;

2. The waters of the state be conserved and developed for all public beneficial uses;

3. Comprehensive planning be undertaken for the protection, conservation, equitable and wise use and development of the water resources of the state to the end that such water resources be not wasted and shall be adequate to meet the present and future needs for domestic, municipal, agricultural, commercial, industrial, power, recreational and other public, beneficial purposes;

4. With respect to the use of the waters of the state and the water courses thereof, due consideration shall be given to the relative importance of different uses;

5. The acquisition, storage, diversion and use of water for domestic and municipal purposes shall have priority over all other purposes;

6. Alterations in the conditions of waters and water courses be planned and carried out in such manner that the important uses will be impaired as little as possible;

7. Reasonable standards of purity and quality of the waters of the state be maintained consistent with public health, safety and welfare and the public enjoyment thereof, the propagation and protection of fish and wildlife, including birds, mammals and other terrestrial and aquatic life, and the industrial development of the state, and to that end, to require the use of all known available and reasonable methods to prevent and control pollution, wastage and unreasonable disturbance and defilement of the waters of the state;

8. In addition to other recognized public beneficial uses and control of water as provided by this article 15 or by any other statute, the regulated acquisition, storage, diversion and use of water for the supplemental irrigation of agricultural lands within the state is a public purpose and use, in the interests of the health, safety and welfare of the people of the state and for their interest.

§ 15-0107. Definitions as used in this article

1. "Person" means any individual, firm, co-partnership, association or corporation other than the state and a "public corporation."

2. "Public corporation" means "public corporation" as defined in subdivision one of Section 3 of the General Corporation Law and includes all public authorities, except the Power Authority of the State of New York.

3. "Municipality" or "municipal corporation" includes a county, city, town and village.

4. "Waters" shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial limits of the state of New York, and all other bodies of surface or underground water, natural or artificial, inland or coastal, fresh or salt, public or private, which

are wholly or partially within or bordering the state or within its jurisdiction.

5. "Water power" shall be construed to mean power developed from falling or flowing water, and all electrical current and other forms of energy into which such power may be transformed.

6. The term "comprehensive planning" as used in title 11 of this article shall be deemed to mean multi-purpose planning for at least two, and as many more as may be found to be practicable and reasonable, of the purposes and uses as provided by this article 15 or by any other statute, the provisions of which and the procedures authorized thereby are to remain in full force and effect.

7. Other definitions, applicable to this article, are found in sections 15–1301, 15–1703, 15–1973 and 15–2101.

§ 15–0109. General jurisdiction

The department shall exercise its powers and perform its duties in any matter affecting the construction of improvements to or developments of water resources for the public health, safety or welfare, including but not limited to the supply of potable waters for the various municipalities and inhabitants thereof, the use of water for industrial and agricultural operations, the developed and undeveloped water power of the state, the facilitation of proper drainage and the regulation of flow and improvement of the rivers of the state.

§ 15–0313. Powers and responsibilities with respect to water pollution control

1. The department shall perform such duties and functions with respect to the control of water pollution as is provided in article 17 of the Environmental Conservation Law, and shall have such powers and authority as may be necessary in that regard.

2. The department is hereby authorized, upon due consideration after hearing to:

a. Alter, modify or amend the "Rules and Classifications and Standards of Quality and Purity for Waters of New York State" for the control of pollution of the waters of the state as provided in paragraph (c) of subdivision 7 of section 17–0301,

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b. Classify the waters of the state in accordance with best usage in the interest of the public, and alter, reclassify, modify, change or amend the classification of waters hitherto adopted and established by the former Water Resources Commission and the former Water Pollution Control Board as provided in paragraph (c) of subdivision 7 of section 17-0301,

c. Establish new, or alter, modify, change or amend existing standards of quality and purity of the waters of the state applicable to the classification of waters.

3. In the classification of waters and the adoption of standards of purity and quality therefore, due consideration shall be given by the department to the factors and considerations specifically provided in section 17-0301.

4. The department is authorized to adopt and enforce rules and regulations governing the use of chemicals in water for the control and elimination of aquatic vegetation, for the control or extermination of undesirable fish or for the control or extermination of aquatic insects, notwithstanding any of the provisions of the Environmental Conservation Law.

a. Such rules and regulations may forbid such use of chemicals except pursuant to a permit issued by the department, or by an appropriate officer or agency authorized by such rules to issue such permits.

b. Such rules and regulations may specify the chemicals and quantities and concentrations thereof which may be used for such purposes, which specified chemicals shall be selected with maximum protection of life, health and property as criteria for their selection, and shall also provide for giving reasonable notice to persons likely to be adversely affected by such use of chemicals and may require consent of persons who may reasonably be expected to suffer substantial damage or injury thereby prior to the issuance of any permit for such use.

c. No chemical may be introduced into any surface waters of the state classified pursuant to article 17 or former articles 12 or 6 of the Public Health Law for the purpose of control and elimination of aquatic vegetation, for the control or extermination of undesirable fish or for the control or extermination of aquatic insects in violation of such rules and regulations.

TITLE 5—PROTECTION OF WATER

§ 15-0505. Protection of navigable waters; excavation or fill; permit

1. No person or local public corporation shall excavate or place fill in the navigable waters of the state, or in marshes, estuaries, tidal marshes and wetlands that are adjacent to and contiguous at any point to navigable waters as defined by subdivision four of section two of the navigation law and that are inundated at mean high water level or tide, unless a permit therefor shall have first been obtained pursuant to Subdivision 3 hereof. For the purposes of this section fill shall include, but shall not be limited to, earth, clay, silt, sand, gravel, stone, rock, shale, concrete (whole or fragmentary), ashes, cinders, slag, metal, or any other similar material whether or not enclosed or contained by (1) crib work of wood, timber, logs, concrete or metal, (2) bulkheads and cofferdams of timber sheeting, bracing and piling or steel sheet piling or steel H piling, separated or in combination. Nothing in this section contained is intended nor shall be construed to limit, repair or affect the memorandum of understanding which any state department enters into with the Department of Environmental Conservation or the general powers and duties of the Department of Transportation relating to canals or the general powers and duties of the Department of Environmental Conservation relating to flood control.

2. A person or local public corporation desiring to make such excavation or fill shall make application to the department setting forth the character and extent of the work proposed and such other information as the department may require. The application shall be accompanied by drawings, plans and specifications showing the location and details of the proposed work.

3. The department, before granting such permit shall ascertain the probable effect on the use of such waters for navigation, the health, safety and welfare of the people of the state and the effect on the natural resources of the state, including soil, forests, water, fish and aquatic resources therein, likely to result from such channel excavation or fill.

4. The department shall review plans and may grant such permit, or may as a condition to the issuance of such permit prescribe modifications of such plan in order to safeguard life or property against danger or destruction and to make such naviga-

ble waters safe for use by the public, or it may refuse such permit.

5. The provisions of this section shall be in addition to and shall not affect or replace the provisions of section 15–0501 requiring a permit for the alteration of certain streams or the removal of sand, gravel or other material therefrom, except that the department may by regulation provide that only one application for permit need be filed in case the relief sought pertains to work in such streams which are also navigable waters of the state.

TITLE 11—LOCAL AND REGIONAL WATER RESOURCES PLANNING AND DEVELOPMENT

§ 15–1103. Petition; proceedings; exclusion of certain counties

1. Any county, city, town or village, when duly authorized to do so, or any combination thereof, except as provided in subdivision 7 hereof, may submit to the department a verified petition requesting the department to consider a proposal for a survey and study of the water resources of a specified region of which the petitioning municipality is a part, for the purpose of preparing and providing a comprehensive plan or plans for the protection, conservation, development and beneficial use of such resources. Any such petition, prior to its submission to the department, must be approved by the county legislative body of each county wholly or partly within the specified region. The petition shall set forth the facts upon which the petitioner or petitioners rely to show that it is necessary and would be in the public interest and benefit to undertake such survey, study and comprehensive planning. The petition shall list the persons, public corporations and state agencies engaged in receiving, collecting, storing, transmitting, distributing, processing or otherwise dealing with water for a public purpose, within the region set forth in the petition, and the names and addresses of the clerks or other executive officers thereof. There shall be attached to the petition a certified copy of the resolution, ordinance or other evidence of authority authorizing the execution of the petition.

2. Upon receipt of a petition, the department with reasonable diligence shall cause public notice to be given that on a day therein named it will hold a public hearing at such place, within the region specified in the petition, as is designated in the notice for the purpose of hearing all persons, public corporations and state agencies in favor of or opposed to the proposal. Such public notice shall be given by publication as provided in subdivision 1 of section 15-0903.

3. In addition to such public notice, the department shall give notice of the time and place of the public hearing in writing, at least fifteen days prior to the date thereof, to the state Departments of Agriculture and Markets, Commerce, Health and Transportation, and the State Soil Conservation Committee; also to the clerks or other executive officers of the public corporations and state agencies, persons and other agencies as listed in the petition. The department may also give similar written notice to any other person, body or agency it may deem would have an interest in or would be affected by any compre-

hensive planning. Any public corporation, acting through any executive office authorized to take such action by its governing body or board, may file with the department a written request that such public corporation be notified in writing of any hearing under title 11 of this article in relation to any region embraced in whole or in part within any area or areas of the state designated by such public corporation in its written request. After the filing of such request, where any petition shall be filed with the department setting forth any such region, but not listing such public corporation, the department shall give notice to such public corporation of any hearing on such petition, in the same manner as if it had been listed in the petition pursuant to subdivision 1 of this section. For the purpose of any hearings or proceedings under title 11 of this article or to review a decision in the manner provided by article seventy-eight of the Civil Practice Law and Rules relating to any region embraced within the area or areas designated in such request, any public corporation entitled to notice by reason of having filed such request shall be deemed to be and shall have all of the rights of a party to the same extent as if such public corporation had been listed in the petition pursuant to subdivision 1 of this section. A modification or withdrawal of any such request may be filed by any public corporation in the same manner as an original request. Any such modification shall have the same force and effect as an original request. Failure of the department to give notice pursuant to such written request shall not invalidate any proceedings had or action taken by the department.

4. The department shall, upon the day specified in the notice, or upon such subsequent day or days to which it may adjourn the hearing, proceed to take testimony and proof and to hear arguments submitted in support of and in opposition to the proposal. If in the course of the hearing, it shall appear to the department that the region specified in the petition should be enlarged in order to undertake a more comprehensive and beneficial study, survey and planning, the department shall adjourn the hearing a sufficient period of time in order to obtain the approval of the county legislative body or bodies of the county or counties in which the additional area is located for the inclusion of such additional area in the proposal. If such approval is given, the department shall give, within the additional area, similar public and written notice, and shall give similar written notice to public corporations which have filed requests, and in like manner, as provided by subdivisions 2 and

3 of this section, of the time and place fixed by the department for the resumption of the public hearing. The hearing shall resume and proceed at such time and place as if the additional area had been included in the petition as part of the region.

5. Within thirty days after the taking of testimony and proofs, any person, public corporation or state agency, who or which has appeared at the hearing, may file with the department written objections to the proposal or parts thereof as petitioned for or as enlarged as above provided. Such objections shall specify the grounds and reasons upon which they are made. Briefs in support of and in opposition to the proposal may be filed with the department within the same thirty day period. Upon expiration of the period, the hearing shall be deemed closed, unless the department determines that the hearing should be reopened for the taking of further testimony or other proof.

6. Thereafter and with all convenient speed, the department shall render its decision, determining if it is or is not in the public interest or benefit to undertake the proposal. If the proposal is found to be in the public interest or benefit, the department shall determine the region of the state to be included in the study, survey and comprehensive planning, the minimum number of specific purposes for which the planning should be undertaken, the extent of the study, survey and planning involved and an approximate estimate of the cost of the study and survey.

7. Following this determination by the department, and before proceeding thereon, the petitioner for the survey and study decide within six months after the date of the department's determination whether to proceed with the survey and study or to withdraw its request therefor. Notice of its decision shall be given promptly to the department. The department may grant one or more extensions of six months each to the petitioner to make its decision.

8. The area of the state within the corporate limits of the city of New York shall not be included, in whole or in part, in any region proposed by a petition, or as enlarged or as determined by the department under this section, which region includes in whole or in part the counties of Nassau or Suffolk, or either of them.

ARTICLE 17—WATER POLLUTION CONTROL

§ 17-0101. Declaration of policy

It is declared to be the public policy of the state of New York to maintain reasonable standards of purity of the waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of fish and wild life, including birds, mammals and other terrestrial and acquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods to prevent and control the pollution of the waters of the state of New York.

§ 17-0103. Statement of purpose

It is the purpose of this article to safeguard the waters of the state from pollution by preventing any new pollution and abating pollution existing when the predecessor of this chapter was enacted, under a program consistent with the declaration of policy stated in section 17-0101.

§ 17-0105. Definitions applicable to portions of this article

When used in titles 1 to 11, inclusive, and title 19 of this article:

1. "Person" or "persons" means any individual, public or private corporation, political subdivision, government agency, mu-

nicipality, industry, co-partnership, association, firm, trust, estate or any other legal entity whatsoever.

2. "Waters" or "waters of the state" shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial limits of the state of New York and all other bodies of surface or underground water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

3. "Marine district" shall include the waters of the Atlantic ocean within three nautical miles from the coast line and all other tidal waters within the state, except the Hudson river northerly of the south end of Manhattan Island.

4. "Sewage" means the water-carried human or animal wastes from residences, buildings, industrial establishments or other places, together with such ground water infiltration and surface water as may be present. The admixture with sewage as above defined of industrial wastes or other wastes as hereafter defined, shall also be considered "sewage" within the meaning of this article.

5. "Industrial waste" means any liquid, gaseous, solid or waste substance or a combination thereof resulting from any process of industry, manufacturing, trade, or business or from the development or recovery of any natural resources, which may cause or might resaonably [1] be expected to cause pollution of the waters of the state in contravention of the standards adopted as provided herein.

6. "Other wastes" means garbage, refuse, decayed wood, sawdust, shavings, bark, sand, lime, cinders, ashes, offal, oil, tar, dye-stuffs, acids, chemicals, and all other discarded matter not sewage or industrial waste which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards adopted as provided herein.

7. "Standard" or "Standards" means such measure of purity or quality for any waters in relation to their reasonable and necessary use as may be established by the department pursuant to section 17-0301.

8. "Sewer system" or "sewerage system" means pipe lines or conduits, pumping stations, and force mains, and all other con-

structions, devices, and appliances appurtenant thereto, used for conducting sewage, industrial waste or other wastes to a point of ultimate disposal.

9. "Treatment works" means any plant, disposal field, lagoon, pumping station, constructed drainage ditch or surface water intercepting ditch, incinerator, area devoted to sanitary land fills, or other works not specifically mentioned herein, installed for the purpose of treating, neutralizing, stabilizing or disposing of sewage, industrial waste or other wastes.

10. "Disposal system" means a system for disposing of sewage, industrial waste or other wastes, and including sewer systems and treatment works.

11. "Outlet" means the terminus of a sewer system, or the point of emergence of any water-borne sewage, industrial waste or other wastes or the effluent therefrom, into the waters of the state.

12. "Shellfish" includes oysters, scallops, claims, mussels and other aquatic mollusks, and lobsters, shrimp, crawfish, crabs and other aquatic crustaceans.

§ 17-0303. General powers and duties applicable to portions of this article

1. The provisions of this section shall apply only to titles 1 to 11, inclusive, and title 19 of this article.

2. The department shall have administrative jurisdiction to abate and prevent the pollution of waters of the state in the manner herein provided in accordance with the classification of waters adopted by the department pursuant to section 17-0301 and in accordance with standards, criteria, limitations, rules and regulations and permit conditions adopted, promulgated or applied by the department pursuant to title 8 hereof.

3. The department, acting through the commissioner may, from time to time, adopt, amend, or cancel administrative rules and regulations governing the procedure to be followed with respect to hearing, filing of reports, the issuance of permits, and all other matters relating to procedure, and generally, may make such administrative rules and regulations, and do and perform any and all acts, not inconsistent with the provisions of this article listed in subdivision 1 of this section, as may be necessary or proper to carry into effect such provisions of this article listed in subdivision 1 of this section, and may make, amend and repeal rules and regulations for the storage of liquids likely to pollute the waters of the state including, but not limited to, standards for the construction, installation, maintenance, protection and diking of tanks used to store any such liquids and their associated structures, piping, valves, fittings, fixtures and outlets, in conjunction with the promulgation of which, the commissioner shall consider codes and practices of industries concerned with

the handling and storage of such liquids and the time required for persons engaged in such industries to conform with such rules and regulations. Such rules and regulations, before becoming effective, shall be filed with the secretary of state for publication in the "Original Compilation of Codes, Rules and Regulations of the State of New York" published pursuant to section 120 of the Executive Law.

4. The commissioner is hereby authorized to:

a. Hold public hearings, receive pertinent and relevant proof from any party in interest who appears at such hearing, compel the attendance of witnesses, make findings of fact and determinations, and assess such penalties therefor as are hereinafter prescribed, all with respect to the violations of the provisions of this article listed in subdivision 1 of this section, or the orders issued by the commissioner;

b. Make, modify or cancel orders requiring the discontinuance of the discharge of sewage, industrial waste or other wastes into any waters of the state in accordance with the provisions of this article listed in subdivision 1 of this section, and specifying the conditions and time within which such discontinuance must be accomplished.

c. Institute or cause to be instituted in a court of competent jurisdiction proceedings to compel compliance with the provisions of this article listed in subdivision 1 of this section or the determinations and orders of the commissioner;

d. Issue or deny permits, under such conditions as may be prescribed for the prevention and abatement of pollution, for the discharge of sewage, industrial waste or other wastes, or for the installation or operation of disposal systems or parts thereof;

e. Continue any permit heretofore or hereafter issued under the provisions of this article listed in subdivision 1 of this section, or under the authority of laws previously enacted and thereafter repealed, whenever, after hearing thereon, the commissioner determines that such continuation is necessary or desirable to prevent or abate pollution of any waters of the state;

f. Revoke or modify any construction, operating or discharge permit heretofore or hereafter issued under the provisions of this article listed in subdivision 1 of this section or under the authority of laws previously enacted and thereafter repealed, whenever, after hearing thereon the commissioner determines that such revocation or modification is necessary or desirable to prevent or abate pollution of any waters of the state provided, however, that the hearing required under this paragraph may be waived in writing by the applicant or permitee;

g. Conduct such investigations as may be deemed advisable and necessary to carry out the intents and purposes of the provisions of this article listed in subdivision 1 of this section;

h. Settle or compromise, with the approval of the attorney general, any action or cause of action for the recovery of a penalty under the provisions of this article listed in subdivision 1 of this section as he may deem advantageous to the state;

i. Perform such other and further acts as may be necessary, proper or desirable, to carry out effectively the duties and responsibilities prescribed in the provisions of this article listed in subdivision 1 of this section.

5. It shall be the duty and responsibility of the department to:

a. Encourage voluntary cooperation by all persons in preventing and abating pollution of the waters of the state;

b. Encourage the formulation and execution of plans by cooperative groups or associations of municipalities, industries, and other users of the waters who, severally or jointly, are or may be the source of pollution in the same waters, for the prevention and abatement of pollution;

c. Cooperate with the appropriate agencies of the United States or other states, or any interstate agencies in respect to pollution control matters, or for the formulation for submission to the legislature of interstate pollution control compacts or agreements;

d. Conduct or cause to be conducted studies and research, and provide services by itself or in cooperation with federal, interstate, state or municipal agencies, with respect to pollution abatement or control problems, disposal systems, and treatment of sewage, industrial waste and other wastes, which shall include but not be limited to (1) advances in effectiveness and economies in waste water treatment and plant design and operation, (2) feasible and economical means for providing sewers and sewage treatment works for small communities, (3) economical means for future incorporation of separate sewer service units into area-wide systems, (4) studies of selected problems, such as industrial wastes and changing sewage characteristics, (5) development of a data processing system for periodic determination of the status of water pollution control throughout the state, (6) provision of advisory services for municipal officials in relation to sewage problems, including information material concerning planning, construction and operation, financial assistance pro-

grams and methods of defraying the costs of sewers and sewage treatment plants, and (7) assimilative capacities of streams, lakes and other waters of the state;

e. Prepare and develop a general comprehensive plan for the abatement of existing pollution and the prevention of new pollution, by the installation, use, and operation of practical and available systems, methods and means for controlling pollution, recognizing different requirements for separate waters and for different segments of the same waters;

f. Require to be submitted to it, and to consider for approval, plans for disposal systems or any part thereof, and to inspect the construction thereof for compliance with the approved plans;

g. Serve as an agency of the state for the receipt of moneys from the federal government, or other public or private agencies, and to expend the same, after appropriation therefor, for the purpose of pollution control, studies or research

h. Establish a water quality surveillance network with sufficient stations and sampling schedule to meet the needs of the state, including ground water and surface water, both fresh and salt, and publish the results of such water quality surveillance network periodically;

i. Develop a public education and promotion program to aid and assist public officials in publicizing needs and securing support for pollution control action;

j. Prepare an annual report on the status of the water pollution control program, covering all phases of the program;

k. Promulgate rules, regulations and standards, subject to the requirements of subdivision 3 of section 17-0303, providing for the testing and measuring of sewage, industrial waste or other wastes, at their outlet or point source into waters of the state, and further providing for the maintaining of a permanent record of the resulting data, and periodically reporting such record to the commissioner, subject to the restriction set forth in subdivision 6 of section 17-0303.

6. The commissioner, or his authorized representative, shall have the right to enter at all reasonable times in or upon any property, public or private, for the purpose of inspecting and investigating conditions relating to pollution, or the possible pollution of any waters of the state, which inspection or examination does not involve confidential information relating to secret processes or economics of operation.

7. The commissioner, or his authorized representative may examine any records or memoranda pertaining to the operation of a disposal system or treatment works which examination does not involve confidential information relating to secret processes or to economics of operation.

TITLE 5—PROHIBITIONS

§ 17-0501. General prohibition against pollution

1. It shall be unlawful for any person, directly or indirectly, to throw, drain, run or otherwise discharge into such waters organic or inorganic matter that shall cause or contribute to a condition in contravention of the standards adopted by the department pursuant to section 17-0301.

§ 17-0503. Prohibition against pollution of waters of marine district

1. Sewage, industrial waste or other wastes, or any substance injurious to edible fish and shellfish, or the culture or propagation thereof, or which shall in any manner affect the flavor, color, odor or sanitary condition of such fish or shellfish so as to injuriously affect the sale thereof, or which shall cause any injury to the public and private shell fisheries of this state shall not be placed or allowed to run into the waters of the state in the marine district nor into any waters of Long Island, tributory to the marine district.

2. Garbage, cinders, ashes, oils, sludge or refuse of any kind shall not be thrown, dumped or permitted to run into the waters of the marine district.

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ARTICLE 23—MINERAL RESOURCES

§ 23-0101. Definitions

As used in this article, unless the context otherwise requires:

1. "Cavity" means an open or partially open space left after a salt has been solution mined.

2. "Field" means the general area underlaid by one or more pools.

3. "Gas" means all natural, manufactured, mixed, and byproduct gas, and all other hydrocarbons not defined as oil in this section.

4. "Oil" means crude petroleum oil and all other hydrocarbons, regardless of gravity, that are produced at the wellhead in liquid form by ordinary production methods and that are not the result of condensation of gas.

5. "Owner" means the person who has the right to drill into and produce from a pool or a salt deposit and to appropriate the oil, gas or salt he produces either for himself or others, or for himself and others.

6. "Person" means and includes any natural person, corporation, association, partnership, receiver, trustee, executor, administrator, guardian, fiduciary, or other representative of any kind, and includes any department, agency or instrumentality of the state or any of its governmental subdivisions.

7. "Pool" means an underground reservoir containing a common accumulation of oil or gas or both; each zone of a structure which is completely separated from any other zone in the same structure is a pool.

8. "Producer" means the owner of a well or wells capable of producing oil, gas, or salt; or any salt or hydrocarbon mixture.

9. "Product" means any commodity made from oil or gas and includes refined crude oil, crude tops, topped crude, processed crude, processed crude petroleum, residue from crude petroleum, cracking stock, uncracked fuel oil, fuel oil, treated crude oil, residuum, gas oil, casinghead gasoline, natural-gas gasoline, kerosene, benzine, wash oil, waste oil, blended gasoline, lubricating oil, blends or mixtures of oil with one or more liquid products or by-products derived from oil or gas, and blends or mixtures of two or more liquid products or by-products derived from oil or gas, whether herein enumerated or not.

10. "Reservoir" means any underground reservoir, natural or artificial cavern or geologic dome, sand or stratigraphic trap, whether or not previously occupied by or containing oil or gas.

11. "Salt" means sodium chloride, evaporite or other water soluble minerals, either in solution or as a solid or crystalline material in a pure state or as a mixture.

12. "Solution mining" means the dissolving of an underground salt by water to produce a brine for transport to another underground or surface location for sale, processing or storage.

13. "Waste" means

a. Physical waste, as that term is generally understood in the oil and gas industry;

b. The inefficient, excessive or improper use of, or the unnecessary dissipation of reservoir energy;

c. The locating, spacing, drilling, equipping, operating, or producing of any oil or gas well or wells in a manner which causes or tends to cause reduction in the quantity of oil or gas ultimately recoverable from a pool under prudent and proper operations, or which causes or tends to cause unnecessary or excessive surface loss or destruction of oil or gas;

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d. The inefficient storing of oil or gas; and
e. The flaring of gas produced from an oil or condensate well after the department has found that the use of the gas, on terms that are just and reasonable, is, or will be economically feasible within a reasonable time.

§ 23-0102. Short title

This article shall be known and may be cited as the "oil, gas and solution mining law".

TITLE 3—GENERAL PROVISIONS

§ 23-0301. Declaration of policy

It is hereby declared to be in the public interest to foster, encourage and promote the development, production and utilization of natural resources of oil and gas in this state in such a manner as will prevent waste; to authorize and to provide for the operation and development of oil and gas properties in such a manner that a greater ultimate recovery of oil and gas may be had, and that the correlative rights of all owners and the rights of all persons including landowners and the general public may be fully protected, and to provide in similar fashion for the underground storage of gas and the solution mining of salt.

§ 23-0303. Administration of article

Except to the extent that the administration of this article is specifically entrusted to other agencies or officers of the state by its provisions, such administration shall be by the department. Geological services for the department in connection with the administration of this article shall be provided by or in cooperation with the state geologist. Within appropriations therefor the department is authorized to employ such personnel as may be necessary for the administration of this article and may also employ or secure the services of such engineering, technical and other consultants as it may require from time to time.

§ 23-0305. Powers and duties of the commissioner and the department

1. The provisions of this section shall apply only to rules, regulations, orders and hearings made or conducted in the administration of this article.

2. No rule, regulation, order or amendment thereof, except in an emergency, shall be made by the department without a public hearing upon at least ten days' notice, exclusive of the date of service. The public hearing shall be held at such time

and place as may be prescribed by the department and any interested person shall be entitled to be heard.

3. When an emergency requiring immediate action is found to exist, the department may make an emergency order without notice or hearing, which shall be effective when made. No emergency order shall be effective for more than fifteen days.

4. Any notice required by this article shall be given by the department by any one or more of the following methods: (a) personal service, (b) publication in one or more issues of a newspaper of general circulation in the county where the land affected or some part thereof is situated, or (c) by registered or certified mail addressed, postage prepaid, to the last known mailing address of the person or persons affected. The date of service shall be the date on which service was made in the case of personal service, the date of first publication in the case of notice by publication, and the date of mailing in the case of notice by mail. The notice shall specify the style and number of the proceeding, the time and place of the hearing, and shall briefly state the purpose of the proceeding. Should the department elect to give notice by personal service, such service may be made by any officer authorized to serve process, or by any agent of the department in the same manner as is provided by law for the service of process in civil actions in the courts of the state.

5. All rules, regulations and orders made by the department shall be in writing, shall be entered in full and indexed in books to be kept by the department for that purpose, and shall be public records open for inspection at all times during reasonable office hours. A copy of any department rule or regulation shall be received in evidence in all courts of this state with the same effect as the original, if certified by a member or duly authorized employee of the department.

6. The department may act upon its own motion or upon the application of any interested person. On the filing of an application concerning any matter within the jurisdiction of the department, pursuant to this article, the department shall promptly fix a date for a hearing thereon, and shall cause notice of the hearing to be given. The hearings shall be held without undue delay after the filing of the petition. The department shall make its order within sixty days after the conclusion of the hearing.

7. To aid in the administration of this article, the commissioner may issue subpoenas in his name requiring the attendance and giving of testimony by witnesses and the production of books, papers and other documentary evidence for any hearing, pro-

ceeding or investigation conducted or to be conducted by or before the department. Service of such a subpoena, enforcement of obedience thereto, and punishment for disobedience thereof shall be had as and in the manner provided by the Civil Practice Law and Rules relating to enforcement of a subpoena issued by a board or committee except that in the case of hearings, proceedings or investigations before or conducted by the department neither the holder of a permit or lease issued pursuant to this article, nor an employee of such permit holder or lessee, nor an officer or stockholder in a permittee or lessee corporation, when required to attend as a witness, shall be entitled to any subpoena fee or mileage. Any member of the department or any person who may be designated by the department to hold hearings may administer oaths to witnesses. The department also may provide for the taking of depositions of witnesses for the purpose of any such hearing. In such case such officer, employee or other person may administer oaths to the witnesses whose depositions are to be taken. Each deposition shall be reduced to writing and subscribed by the deponent. The provisions of this subdivision shall apply only to the administration of this article.

8. With respect to oil pools or fields and natural gas pools or fields which have been discovered, developed and operated, or are in the process of being developed and operated, on or prior to October 1, 1963, the department shall have power to:

a. Make such investigations as it deems proper to determine whether waste exists or is imminent.

b. Require identification of ownership of producing leases, tanks, plants, structures and facilities for the transportation and refining of oil and gas.

c. Classify and reclassify pools as oil or gas pools, or wells as oil or gas wells, for purposes material to the interpretation or administration of this article.

d. Require the drilling, casing, operation and plugging of wells in accordance with rules and regulations of the department in such manner as to prevent the escape of oil, gas or water out of one stratum into another; the intrusion of water onto oil or gas stratum; the pollution of fresh water supplies by oil, gas or salt water; and blowouts, cavings, seepages and fires.

e. Enter, take temporary possession of any abandoned well and plug the same as provided in its plugging rules and regulations, whenever any owner or operator shall neglect or refuse to comply with such rules and regulations. Such plugging by the department shall be at the expense of the owner or operator whose duty it may be to plug the well. Primary liability for the expense of such plugging and first recourse for the recovery thereof shall be to the operator unless a contract for the production, development, exploration or other working of the well, to which the lessor or other grantor of the oil and gas rights is a party, shall place such liability on the owner or on the owner of another interest in the land on which the well is situated. When an operator violates the law in reference to plugging an abandoned well he may not transfer his responsibility therefor by surrendering the lease. Prior to the commencement of drilling of any well, the department shall require the operator to furnish to the department a bond acceptable to it conditioned upon the performance of said operator's plugging responsibilities with respect to said well. Upon the approval of the department, in lieu of such bond, the operator may deposit cash or negotiable bonds of the United States Government of like amount in an escrow account conditioned upon the performance of said operator's plugging responsibilities with respect to said well. Any interest accruing as a result of the aforementioned escrow deposit shall be the exclusive property of the operator. The aforementioned bonding requirements also shall remain the obligation of the original operator regardless of changes in operators unless a subsequent operator has furnished the appropriate bond or substitute as herein provided acceptable to the department and approval for the transfer of the well plugging responsibilities to the subsequent operator has been granted by the department. The cost of plugging any well, where such plugging is necessary or incident to the commencing or carrying on of storage operations under or pursuant to sections 23-1103 or 23-1301 shall be borne by the operator of the storage facility.

f. Require that every person who produces, sells, purchases, acquires, stores or transports oil or gas in this state shall keep and maintain complete and accurate records of the quantities thereof, or true copies or duplicates shall be kept or made available for examination within this state by the department or its agents at all reasonable times and that every such person file with the department such reports concerning production, sales, transportation or storage on a form acceptable to the department, provided that any such records or reports, and any information obtained therefrom shall be only for the confidential use of the department and other departments, agencies and officers of the state government until six months after the period to which said records or reports apply, unless the person furnishing the same shall expressly agree to their earlier publication or availability to the general public. Nothing herein shall be construed to prevent the use of such records, reports or information obtained therefrom by any department, agency or officer of the state government in compiling or publishing analyses or summaries relating to the general condition of the industry, the economy, or the condition of the natural resources of this state, provided that such analyses or summaries do not involve the publication of records, reports or information relating to a single firm or business enterprise.

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9. With respect to oil pools or fields and natural gas pools or fields to which subdivision 8 of this section does not apply, the department shall have power to:

a. Do and require all things set forth in subdivision 8 of this section.

b. Require the taking and making of well logs, well samples, directional surveys and reports on well locations and elevations, drilling and production, and further require their filing pursuant to the provisions of paragraph g of this subdivision. Upon the request of the state geologist, the department shall cause such duplicate samples or copies of records as may be required pursuant to this paragraph to be furnished to him.

c. Give notice to persons engaged in underground mining operations of the commencing of any phase of oil or gas well operations which may affect the safety of such underground mining operations or of the mining properties involved. Rules and regulations of the department shall specify the distance from underground mining operations within which such notice shall be given and shall contain such other provisions as in the judgment of the department shall be necessary in the interest of safety. No person shall be entitled to receive, nor shall it be the responsibility of the department to furnish, any notice required by this paragraph unless the person or persons engaged in underground mining operations or having rights in mining properties have notified the department of the existence and location of the operations or properties in respect of which notice is to be given.

d. Require that production from wells be separated into gaseous and liquid hydrocarbons and that each be accurately measured by such means and upon such standards as may be prescribed by it.

e. Require metering or other measuring of oil, gas or product in pipe lines, gathering systems, barge terminals, loading racks, refineries or other places.

f. Require the operation of wells with efficient gas-oil and water-oil ratios, fix these ratios, and limit production from wells with inefficient gas-oil or water-oil ratios.

g. Require that every person who produces, sells, purchases, acquires, stores, transports, refines or processes oil or gas in this state shall keep and maintain complete and accurate records of the quantities of such oil or gas, or true copies or duplicates shall be kept or made available for examination within this state by the department or its agents at all reasonable times and that every such person file with the department such reports as it may prescribe with respect to such oil or gas or their products; provided that any such records or reports, and any information obtained from them shall be only for the confidential use of the department and other departments, agencies and officers of the state government until six months after their disclosure to the department, unless the person furnishing the same shall expressly agree to their earlier publication or availability to the general public. Nothing herein shall be construed to prevent the use of such records, reports or information obtained therefrom by any department, agency or officer of the state government in compiling or publishing analyses or summaries relating to the general condition of the industry, the economy, or the condition of the natural resources of this state, provided that such analyses or summaries do not involve the publication of records, reports or information relating to a single firm or business enterprise.

h. Regulate the drilling of wells and all other operations for the production of gas or oil.

i. Prior to the commencement of drilling of any well to which this section applies, the department shall require the operator to furnish to the department a bond acceptable to it conditioned for the performance of said operator's plugging responsibilities with respect to said well, or in lieu of such bond, proof of financial responsibility satisfactory to the department.

j. The provisions of paragraph b of subdivision 9 of this section also shall be applicable to test wells put down more than one mile from any existing production or dry hole.

k. In the case of any well legally plugged pursuant to this subdivision or subdivision 8 of this section, the responsibility for and the cost of replugging or reinforcing the plug on any well, whenever such replugging or reinforcement is made necessary by reason of the commencement or expansion of storage operations, shall be borne by the operator of the storage facility.

10. The department may waive the filing or reporting of any information required by this article for individual oil or gas wells whenever it finds that such filing or reporting for a group of wells will substantially serve the purposes of this article. The department shall not permit filing or reporting of information required by this article by groups of wells in lieu of filing or reporting for individual wells unless it has in force rules and regulations in accordance with which such well grouping shall be made and detailing the specific procedure for such filing and reporting.

11. With respect to solution mining areas which have been developed and operated, or are in the process of being developed and operated on or prior to October first, nineteen hundred seventy-four, the department shall have the power to:

a. Require identification of ownership of producing leases and solution mining equipment such as structures, tanks, gathering systems and facilities for the transportation of salt brine.

b. Require the drilling, casing, operation and plugging of wells in accordance with rules and regulations of the department in such a manner as to prevent the loss or escape of oil or gas reserves to the surface or to other strata; the intrusion of brine or water into commercial oil or gas reserves; the pollution of fresh water supplies by oil, gas or salt water, and to facilitate the efficient use of ground and surface waters in solution mining.

c. Enter, take temporary possession of any abandoned well and plug the same as provided by this subdivision, whenever any owner or operator shall neglect or refuse to comply with paragraph b. Such plugging by the department shall be at the expense of the owner or operator whose duty it may be to plug the well. Primary liability for the expense of such plugging and first recourse for the recovery thereof shall be to the operator unless a contract for the production, development, exploration or other working of the well, to which the lessor or other grantor of the salt is party, shall place such liability on the owner or on the owner of another interest in the land on which the well is situated. When an operator violates the law in reference to plugging an abandoned well he may not transfer his responsibility therefor by surrendering the lease. The cost of plugging any well, where such plugging is necessary or incident to the commencing or carrying on of storage operations under or pursuant to sections 23-1103 or 23-1301 of this article shall be borne by the operator of the storage facility.

12. With respect to solution mining areas to which subdivision eleven of this section does not apply, the department shall have power to:

a. Do and require all things set forth in subdivision eleven.

b. Give notice to persons engaging in underground mining operations of the commencing of any phase of solution mining well operations which may affect the safety of such underground mining operations or of the mining properties involved. Rules and regulations of the de-

partment adopted pursuant hereto shall specify the distance from such underground mining operations within which such notice shall be given and shall contain such other provisions as in the judgment of the department shall be necessary in the interest of safety. No person shall be entitled to receive, nor shall it be the responsibility of the department to furnish, any notice pursuant hereto unless the person or persons engaged in underground mining operations or having rights in mining properties have notified the department of the existence and location of the operations or properties in respect of which notice is to be given.

c. Require metering or other measuring of brine produced by solution mining, and the maintenance of the records from each cavity or group of interconnected cavities until the wells in a cavity have been abandoned and plugged. These records shall be given to the department on request and shall not be released by the department for publication or be available to the general public without consent of the producer.

d. Regulate the drilling of wells and all other operations for the production of salt brines.

e. Enter, take temporary possession of any abandoned well and plug the same as provided in its plugging rules and regulations, whenever any operator shall neglect or refuse to comply with such rules and regulations. Such plugging by the department shall be at the expense of the operator whose duty it shall be to plug the well. Prior to the commencement of drilling of any well to which this subdivision applies, the department shall require the operator to furnish to the department a bond acceptable to it conditioned upon the performance of said operator's plugging responsibilities with respect to said well. Upon the approval of the department, in lieu of such bond, the operator may deposit cash or negotiable bonds of the United States Government of like amount in an escrow account conditioned upon the performance of said operator's plugging responsibilities with respect to said well. The aforementioned bonding requirements also shall remain the obligation of the original operator regardless of changes in operators unless a subsequent operator has furnished the appropriate bond or substitute as herein provided acceptable to the department and approval for the transfer of the well plugging responsibility to the subsequent operator has been granted by the department.

13. In the case of any well legally plugged pursuant to subdivision eleven or twelve hereof, the responsibility for the cost of replugging or reinforcing the plugging of any well, whenever such replugging or reinforcing is made necessary by reason of the commencement or expansion of storage operations, shall be borne by the operator of the storage facility.

14. The department may use any of its powers for the purpose of cooperating with any other state or jurisdiction in regulating or otherwise affecting the development or production of oil, gas or salt at any location where such development or production may have a physical affect on development or production in such other state or jurisdiction.

TITLE 5—WELL SPACING IN NEW OIL AND NATURAL GAS POOLS AND FIELDS

§ 23-0501. Well spacing in new oil and natural gas pools and fields

1. Well spacing in oil pools or fields and in natural gas pools or fields to which subdivision 8 of section 23–0305 does not apply, shall be subject to the provisions of this section.

2. Whenever the department finds after notice and hearing that the spacing of wells in any field is necessary to carry out the policy provision of section 23–0301, it shall promptly establish spacing units for each pool in the field, except in those pools that have been developed to such an extent that it would be impracticable or unreasonable to establish spacing units at the existing stage of development.

3. Spacing units shall be of approximately uniform size and shape for the entire pool, except that where circumstances reasonably require, the department may grant exceptions to the size or shape of any spacing unit or units, provided that in so doing the department shall, if necessary, make such adjustment of the allowable production from the well or wells drilled thereon so that the owners of each spacing unit shall receive their just and equitable shares of the production from the pool.

4. An order establishing spacing units shall specify the size and shape of the units, which shall be such as will, in the opinion of the department, result in the efficient and economical development of the pool as a whole, and no unit shall be smaller than the maximum area that can be efficiently and economically drained by one well.

5. An order establishing spacing units shall specify the location for the drilling of a well thereon, in accordance with a reasonably uniform spacing pattern, with necessary exceptions for wells drilled or drilling at the time of the issuance of the spacing order. If the department finds that a well drilled at the pre-

scribed location would not produce in paying quantities, or that surface conditions would substantially add to the burden or hazard of drilling such well, or for other good cause shown, the department is authorized to make an order permitting the well to be drilled at a location other than that prescribed by the spacing order, provided that in so doing the department shall, if necessary, make such adjustment of the allowable production from the well drilled so that the owners of such spacing unit shall receive no more than their just and equitable shares of the production from the pool.

6. An order establishing spacing units for a pool shall cover all lands determined or believed to be underlaid by such pool, and may be modified by the department from time to time to include additional lands subsequently determined to be underlaid by such pool.

7. An order establishing spacing units may be modified by the department to change their size, or to permit the drilling of additional wells on a reasonably uniform pattern.

8. After the date of the notice for a hearing called to establish spacing units, no additional well shall be commenced for production from the pool until the order establishing spacing units has been made, unless the commencement of the well is authorized by order of the department.

9. An order establishing spacing units shall, unless the spacing be related to unit operation of an entire pool or part thereof pursuant to the provisions of subdivisions 4 through 12 of section 23–0901, specify the procedure to be followed for compulsory integration of interests within the individual spacing units. Such procedure shall be consistent with the provisions of subdivisions 2 and 3 of section 23–0901. The order also shall provide for a time interval of not less than ninety days, nor more than that which the department regards as consistent with the objectives of well spacing and unitization, during which voluntary integration pursuant to section 23–0701 shall be permitted before the compulsory integration procedure of subdivision 3 of section 23–0901 becomes effective.

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TITLE 7—VOLUNTARY INTEGRATION AND UNITIZATION IN NEW OIL AND NATURAL GAS POOLS AND FIELDS

§ 23-0701. Voluntary integration and unitization in new oil and natural gas pools and fields

Voluntary integration and unitization in oil pools or fields and in natural gas pools or fields to which subdivision 8 of section 23-0305 does not apply, shall be subject to the provisions of this section. When two or more separately owned tracts are embraced within a spacing unit, or when there are separately owned interests in all or a part of a spacing unit, the interested persons may integrate their tracts or interests for the development and operation of the spacing unit. An agreement for the unit or for the cooperative development and operation of a field, pool, or part thereof, may be submitted to the department for approval as being in the public interest or reasonably necessary to prevent waste. Such approval shall constitute a complete defense to any suit charging violation of any statute of this state relating to trusts and monopolies on account thereof or on amount of operations conducted pursuant thereto. Failure to submit such an agreement to the department for approval shall not for that reason imply or constitute evidence that the agreement or operations conducted pursuant thereto are in violation of laws relating to trusts and monopolies.

TITLE 9—COMPULSORY INTEGRATION AND UNITIZATION IN NEW OIL AND NATURAL GAS POOLS AND FIELDS

§ 23-0901. Compulsory integration and unitization in new oil and natural gas pools and fields

1. Compulsory integration and unitization in oil pools or fields and in natural gas pools or fields to which subdivision 8

of section 23-0305 does not apply, shall be subject to the provisions of this section with subdivision 3 to be specifically applicable to integration within individual spacing units and subdivisions 4 through 12 to be specifically applicable to unit operation of an entire pool or part thereof. . . .

TITLE 11--LEASES FOR PRODUCTION AND STORAGE OF OIL AND GAS ON STATE LANDS

§ 23-1101. Procedure for obtaining oil and gas production lease

1. The department may make leases on behalf of this state for the exploration, development and production of oil and gas in state owned lands, except state park lands, and the lands under the waters of Lake Erie and Lake Ontario or along their shorelines upon such terms and conditions including consideration as to it shall seem just and proper.

2. All oil and gas leases shall:

a. Be limited in duration to a period not to exceed ten years and as long thereafter as oil and gas is produced in commercially paying quantities;

b. Provide for payment to the agency having jurisdiction over the leased lands of such consideration, royalties, rentals, bonuses and other compensation as shall, in the discretion of the department, be in the best interests of the people of the state of New York;

c. Provide for prompt exploration followed within a reasonable time by operations for the production of oil and gas, if such be found, and shall also contain provisions for the termination of such lease by reason of the lessee's failure to so explore or operate;

d. Be invalid unless they shall have the prior approval of such state department, division, bureau or agency thereof, or state agency having jurisdiction over the land in question; and authority to give such consent is hereby conferred upon the head of any such state department, or a division, bureau or agency thereof, or any state agency, and with respect to lands under water held by the state in its sovereign capacity, jurisdiction is deemed to be in the Commissioner of General Services; and

e. Be inapplicable to any state park lands and to any lands the leasing of which is prohibited by the State Constitution.

3. Any such oil, gas, or oil and gas lease or leases made and granted pursuant to this section shall be awarded to the highest responsible bidder after advertisement for sealed bids. Such advertisements for bids shall be published in the official newspaper or newspapers, if any, or otherwise in a newspaper or newspapers designated for such purpose. Such advertisement shall contain a statement of the time and place where all bids received pursuant to such notice will be publicly opened and read. All bids received shall be publicly opened and read at the time and place specified. At least thirty days shall elapse between the first publication of such advertisement and the date specified for the opening and reading of bids. Bids shall be submitted on forms provided

by the department, which forms shall indicate the method or methods for computing compensation to the state for the lease and shall contain such other directions as may be appropriate to secure comparability of bids submitted for any given lease. The department, in its discretion, shall determine the highest bid after taking into consideration the anticipated compensation to be returned to the state under any such lease by way of royalty payments, delayed lease rental payments, bonuses or other compensation or consideration, or by a combination of any or all of the same. In cases where two or more responsible bidders submit identical bids, the department in its discretion, may award the lease involved to any of such bidders. The department in its discretion, may also reject any or all bids and readvertise for new bids. The department may disallow any bid if the bidder upon request fails to furnish satisfactory evidence of responsibility.

§ 23–1103. Procedure for obtaining gas storage lease

1. The department may make leases on behalf of this state for the storage of gas, and liquefied petroleum gas, in state owned lands upon such terms and conditions including consideration as to it shall seem just and proper.

2. All leases made pursuant to this section shall:

a. Provide for payment to the agency having jurisdiction over the leased lands of adequate and reasonable consideration;

b. Be invalid unless they shall have the prior approval of such state department, division, bureau or agency thereof, or state agency having jurisdiction over the land in question, and authority to give such consent is hereby conferred upon the head of any such state department, or a division, bureau or agency thereof, or any state agency; and with respect to lands under water held by the state in its sovereign capacity, jurisdiction is deemed to be in the Commissioner of General Services;

c. Contain such other terms and provisions as may be necessary or appropriate in order to promote the purposes of this article and the public policy of this state; and

d. Be inapplicable to any lands the leasing of which is prohibited by the State Constitution.

TITLE 13—UNDERGROUND STORAGE OF GAS

§ 23-1301. Procedure for obtaining underground storage permit

1. No underground reservoir shall be devoted to the storage of gas, or liquefied petroleum gas unless the prospective operator of such storage reservoir shall have received from the department, after approval in writing of the state geologist, an underground storage permit which shall be in full force. The application for said permit shall include the following:

a. A map showing the location and boundaries of the proposed underground storage reservoir.

b. A report containing sufficient data to show that the reservoir is adaptable for storage purposes.

c. An affidavit signed by the prospective operator to the effect that he has acquired by grant, lease or other agreement at least seventy-five percent of the storage rights in said reservoir calculated on the basis of surface acreage; and such affidavit shall also set forth that the applicant will agree as a condition to the issuance of such permit that it will thereafter within a reasonable time either acquire by negotiation, or file and proceed with condemnation proceedings to acquire, any outstanding storage rights in the remaining reservoir acreage.

d. Such other information as the department may require.

2. The permit shall be granted within ninety days of application unless the department finds that the application and the information submitted with it do not meet the requirements of this section. The department may revoke or suspend any underground storage permit in force hereunder for failure to comply with any of its provisions or for failure to comply with subdivision 4 of this section.

3. Subdivisions 1 and 2 of this section shall not apply to underground storage reservoirs or the storage of gas therein provided that such reservoirs have been placed in operation prior to October 1, 1963 and so long as such operation is not abandoned.

4. Every operator shall file with the department on or before December 31 of each year, a report with respect to each underground storage reservoir operated by him showing any change in:

a. The estimated size in surface acreage or shape of the reservoir;

b. His estimate of total capacity of the reservoir;

c. His estimate of working capacity of the reservoir; and

d. Any other engineering, geological or operational data that may be requested by the department.

5. No permit issued hereunder and no provision of this article shall be construed to diminish or impair the jurisdiction of the Public Service Commission with respect to regulation of the manufacture, transportation, distribution or sale of gas.

TITLE 15—UNLAWFUL ACTS

§ 23–1501. Unlawful acts

It shall be unlawful to:

1. Waste oil or gas.

2. Commence operations for the drilling of a well for oil or gas, or an intake well, or for the storage of oil or gas, without first giving the department notice of intention to drill. In the event that new oil pools or fields or new natural gas pools or fields are discovered after October 1, 1963, it shall thereafter be unlawful to commence operations for the drilling of a well for oil or gas in such oil or gas pools or fields discovered after October 1, 1963, without first obtaining a permit from the department, issued under such reasonable rules and regulations as it may prescribe.

3. Commence operations for the drilling of a well for solution mining of salt after October first, nineteen hundred seventy-four without first giving the department notice of intention to drill and obtaining a permit from the department, issued under such reasonable rules and regulations as it may prescribe.

4. Abandon any oil, gas or salt well without first giving to the department prior notice in writing of intention to abandon.

5. Willfully violate any provision of this article or any rule, regulation or order of the department made pursuant thereto.

6. Do any of the following for the purpose of evading or violating this article, or any rule, regulation or order of the department made pursuant thereto:

a. Make any false entry or statement in a report required by this article or by any such rule, regulation or order;

b. Make or cause to be made any false entry in any record, account or memorandum, required by this article, or by any such rule, regulation or order;

c. Omit, or cause to be omitted, from any such record, account or memorandum, full, true and correct entries as required by this article, or by any such rule, regulation or order;

d. Destroy, mutilate, alter or falsify any such record, account or memorandum.

7. Knowingly aid or abet any other person in the violation of any provision of this article, or any rule, regulation, or order of the department made pursuant thereto.

ARTICLE 25

Tidal Wetlands

TITLE 1

General Provisions and Public Policy

§ 25-0101. Short title.—This article shall be known as the "Tidal Wetlands Act".

§ 25-0102. Declaration of policy.—It is declared to be the public policy of this state to preserve and protect tidal wetlands, and to prevent their despoliation and destruction, giving due consideration to the reasonable economic and social development of the state.

§ 25-0103. Definitions.—1. "Tidal wetlands" shall mean and include the following:

(a) those areas which border on or lie beneath tidal waters, such as, but not limited to, banks, bogs, salt marsh, swamps, meadows, flats or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters;

(b) all banks, bogs, meadows, flats and tidal marsh subject to such tides, and upon which grow or may grow some or any of the following: salt hay (Spartina patens and Distichlis spicata), black grass (Juncus Gerardi), saltworts (Salicornia ssp.), sea lavender (Limonium carolinianum), tall cordgrass (Spartina pectinata and Spartina cynosuroides), hightide bush (Iva frutescens), cattails (Typha angustifolia and Typha latifolia), groundsel (Baccharis haimilifolia), marsh mallow (Hybiscus palustris) and the intertidal zone including low marsh cordgrass (Spartina alterniflora).

2. "Commissioner" shall mean the commissioner of environmental conservation.

3. "Pollution" shall mean the presence in the environment of conditions or contaminants in quantities or characteristics which are or may be injurious to human, plant, or marine life, wildlife, or other animal life, or to property, or which unreasonably interfere with the comfortable enjoyment of life and property throughout such tidal wetlands as may be affected thereby.

4. "Person" shall mean any individual, public or private corporation, political subdivision, government agency, department or bureau of the state, bi-state authority, municipality, industry, co-partnership, association, firm, trust, estate or any other legal entity whatsoever.

5. "Municipality" shall mean a village, town, city or county.

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TITLE 2

WETLANDS INVENTORY

§ 25-0201. Inventory of tidal wetlands.—1. The commissioner shall as soon as practicable make an inventory of all tidal wetlands in the state of New York. This inventory, and any restrictive orders issued pursuant to section 25-0302 of this act, shall comprise a part of the statewide environmental plan as provided for in section 3-0303 of the environmental conservation law.

2. The inventory shall set forth the boundaries of such wetlands using such photographic and cartographic standards and techniques as the commissioner may deem reasonable and appropriate in order to provide clear and accurate maps of the tidal wetlands of the state for the purpose of effectuating the policies and provisions of this act. Said boundaries shall generally delineate all tidal wetlands in the state as defined in section 25-0101 of this act. At least sixty days prior to the commencement of the inventory the commissioner shall file with the secretary of state a detailed description of the technical methods and requirements to be utilized in compiling the inventory, and he shall afford the public an opportunity to submit written comments thereon.

3. Upon completion of a tentative tidal wetlands boundary map for a particular area, the commissioner or his designated hearing officer shall hold a public hearing in order to afford an opportunity for any person to propose additions or deletions from such map. The commissioner shall give notice of such hearing to each owner of record of all lands designated as such wetland as shown on such maps, and also to the chief administrative officer of each municipality within whose boundary any such wetland or portion thereof is located, by registered mail not less than thirty days prior to the date set for such hearing. The commissioner shall also cause notice of such hearing to be published at least once, not more than thirty days nor fewer than ten days before the date set for such hearing, in at least two newspapers having a general circulation in the area where such wetlands are located.

4. After considering the testimony given at such hearing and any other facts which may be deemed pertinent and after considering the rights of affected property owners and the policy and purposes of this act, the commissioner shall establish by order the final bounds of each such wetland. A copy of the order, together with a copy of the map depicting such final boundary lines, shall be filed in the office of the clerk of the county in which each such wetland is located. The commissioner shall simultaneously give notice of such order to each owner of all lands designated as such wetlands by mailing a copy of such order to such owner by registered

mail. The commissioner shall also simultaneously give notice of such order by registered mail to the chief administrative officer of each municipality within whose boundary any such wetland or portion thereof is located. The commissioner shall also cause a copy of such order to be published in at least two newspapers having a general circulation in the area where such wetlands are located.

5. Any person aggrieved by such order may seek judicial review pursuant to article seventy-eight of the civil practice law and rules in the supreme court for the county in which the tidal wetlands are located, within thirty days after the date of the filing of the order with the clerk of the county in which such wetlands are located.

6. The commissioner shall supervise the maintenance of such boundary maps, which shall be available to the public for inspection and examination. The statewide inventory shall be readjusted from time to time as may be necessary to reflect such natural changes as have occurred through erosion, accretion, and otherwise and also to reflect such other changes as have occurred as a result of the granting of permits pursuant to section 25-0403 of this act.

§ 25-0202. Moratorium on alteration of tidal wetlands.—1. No person shall alter the state of any tidal wetland or of any area immediately adjacent to such wetland as the commissioner may reasonably deem necessary to preserve in order to effectuate the policies and provisions of this act, prior to the effective date of the land-use regulations adopted by the commissioner pursuant to this act, unless a permit for such alteration shall have been obtained pursuant to section 15-0505 of the environmental conservation law. This moratorium shall not restrict in any way any summary action taken by the commissioner under section 71-0301 of the environmental conservation law.

2. Any person, upon a showing of hardships caused by this moratorium, may petition the commissioner for a review of the application of the moratorium to any tidal wetland or any area immediately adjacent thereto. Within thirty days of the petition being received, the commissioner shall provide the petitioner and any other person an opportunity to be heard. Notice of such hearing shall be published in at least two newspapers having a general circulation in the area where the wetlands are located, and notice of such hearing shall also be given by registered mail to the chief administrative officer of each municipality within whose boundary any such wetland or portion thereof is located. If the proposed alterations of the tidal wetlands are not contrary to the policy or any provision of this act, the commissioner may permit the alteration to continue during the moratorium, provided that permission may be revoked by the commissioner if its terms are violated and that the permission ends upon

completion of the inventory for the area in which the affected wetlands are located, and provided further that any such hardship permit issued by the commissioner shall be in addition to, and not in lieu of, such permit or permits as may be required by any municipality within whose boundary such wetland or portion thereof is located.

3. Within thirty days after such permission has been granted or denied, any aggrieved person may seek judicial review of such decision pursuant to article seventy-eight of the civil practice law and rules in the supreme court for the county in which such wetlands are situated.

TITLE 3

Program and Land-use Regulation for Tidal Wetlands

§ 25-0301. Program and cooperative agreements for the protection of tidal wetlands.—1. Upon completion of the inventory with respect to tidal wetlands, the commissioner shall confer with the local government officials involved to establish a program for the protection of such tidal wetlands.

2. The commissioner may enter into cooperative agreements with any village, town, city or county, or with any one or more of them, for the purpose of preserving, maintaining and enhancing, in accordance with the policies of this act, those tidal wetlands included within the boundaries of such villages, towns, cities and counties.

3. A cooperative agreement with any such village, town, city or county may provide for the development by personnel and facilities of the department of environmental conservation, or the payment out of funds appropriated for the purpose, of the cost of preserving, maintaining or enhancing such tidal wetlands in accordance with the policies of this act, and for the furnishing of such personnel, facilities or funds as may be agreed upon within the cooperative agreement.

4. The cooperative agreement shall provide that the tidal wetlands be preserved and maintained in their natural or enhanced state, provided, however, that a reservation in any such agreement by a village, town, city or county of the right to operate or lease for operation shellfish beds lying within the area, and a reservation of the income from such operation or lease for the village, town, city or county shall be allowed and not considered a violation of preservation and maintenance of a natural state.

5. This section shall not prevent any tidal wetlands from being designated as portions of the state's natural and historic preserves, nor shall it prevent the dedication of any such lands as state parks. The office of parks and recreation shall outline to the commissioner its plans to preserve tidal wetlands in parklands as soon as practicable.

§ 25-0302. Land-use regulation of tidal wetlands.—1. Upon completion of the inventory the commissioner shall adopt land-use regulations governing the uses of said inventoried wetlands. In preparing such regulations the commissioner shall be guided by factors including, but not limited to, the public policy set forth in this act as well as the present and potential value of the particular wetland for marine food production, as a wildlife habitat, as an element of flood and storm control, and as a source of recreation, education and research. The commissioner shall determine what uses of inventoried wetlands may be compatible with any or all of the foregoing, and he shall prepare such appropriate land-use regulations as may permit only such compatible uses. These regulations shall be filed with the secretary of state and shall take effect thirty days after such filing. A copy of such regulations shall also be simultaneously forwarded by registered mail to the chief administrative officer of each municipality within whose boundary any such wetland or portion thereof is located. No permits may be granted by any local body, nor shall any construction or activity take place at variance with these regulations.

2. The placing of any tidal wetlands under a land-use regulation which restricts its use shall be deemed a limitation on the use of such wetlands for the purposes of property tax valuation, in the same manner as if an easement or right had been acquired under the general municipal law. Assessment shall be based on present use under the restricting regulation.

TITLE 4

Regulated Activities

§ 25-0401. Regulated activities.—1. After completion of the inventory prescribed in title 2 of this article with respect to any tidal wetland, no person may conduct any of the activities set forth in subdivision 2 of this section unless he has obtained a permit from the commissioner to do so. The permit issued by the commissioner shall be in addition to, and not in lieu of, such permit or permits as may be required by any municipality within whose boundary such wetland or portion thereof is located.

2. Activities subject to regulation hereunder include any form of draining, dredging, excavation, and removal either directly or indirectly, of soil, mud, sand, shells, gravel or other aggregate from any tidal wetland; any form of dumping, filling, or depositing, either directly or indirectly, of any soil, stones, sand, gravel, mud, rubbish, or fill of any kind; the erection of any structures or roads, the driving of any pilings or placing of any other obstructions, whether or not changing the ebb and flow of the tide, and any other activity within or immediately adjacent to inventoried wetlands which may substantially impair or alter the natural condition of the tidal wetland area.

3. The depositing or removal of the natural products of the tidal wetlands by recreational or commercial fishing, shellfishing, aquaculture, hunting or trapping, shall be excluded from regulation hereunder, where otherwise legally permitted.

4. Activities, orders, and regulations of the department of health or of units of local government with respect to matters of public health shall be excluded from regulation hereunder, except as hereinafter provided. Copies of all such public health orders and regulations affecting tidal wetlands shall be filed with the department of environmental conservation. The commissioner may require modification of such orders or regulations if he deems it necessary to implement the policy of this act.

5. The commissioner shall review all current mosquito control projects to determine whether they are having any adverse impact on tidal wetlands. Where any adverse impact is found, the commissioner following a public hearing, may require modification of such projects if he deems it necessary to implement the policy of this act.

6. Where the dredging or filling is in the navigable waters of the state or is for the reconstruction or repair of certain dams and docks, and where such activity also substantially affects tidal wetlands, any person undertaking such activity must seek permission under this act as well as under any other applicable law.

§ 25-0402. Application for permits.—1. Any person proposing to conduct or cause to be conducted an activity regulated under this act upon any inventoried tidal wetland shall file an application for a permit with the commissioner, in such form and containing such information as the commissioner may prescribe. The applicant shall have the burden of demonstrating that the proposed activity will be in complete accord with the policy and provisions of this act. Such application shall include a detailed description of the proposed work and a map showing the area of tidal wetland directly affected, with the location of the proposed work thereon, together with the names of the owners of record of adjacent lands and the known claimants of water rights in or adjacent to the tidal wetlands of whom the applicant has notice. The commissioner shall cause a copy of such application to be mailed to the chief administrative officer in the municipality where the proposed work or any part of it is located.

2. No sooner than thirty days and not later than sixty days after the receipt of such application, the commissioner or his designated hearing officer shall hold a public hearing on such application at a suitable location in the county where the affected wetland is situated. All owners of record of adjacent land, and known claimants to water rights, and the chief administrative officer of any municipality where the pro-

posed work is located shall be notified of the hearing by mail not less than fifteen days prior to the date set for the hearing. The commissioner shall cause notice of such hearing to be published in at least two newspapers having a general circulation in the area where the affected tidal wetlands are located. All applications and maps and documents relating thereto shall be open for public inspection at the regional office of the department encompassing the county in which the place of the proposed activity is located. At such hearing any person or persons may appear and be heard.

§ 25-0403. Granting of permits.—1. In granting, denying or limiting any permit under this act, the commissioner shall consider the compatibility of the proposed activity with reference to the public health and welfare, marine fisheries, shellfisheries, wildlife, flood and hurricane and storm dangers, and the land-use regulations promulgated pursuant to section 25-0302 of this act.

2. Notice that the state or any agency or subdivision thereof is in the process of acquisition of any tidal wetlands by negotiation or condemnation shall be sufficient basis for denial of any permit under this section.

3. In granting a permit the commissioner may impose such conditions or limitations as may be necessary to carry out the public policy set forth in this act. The commissioner may require a bond in an amount and with surety and conditions satisfactory to him securing to the state compliance with the conditions and limitations set forth in the permit. The commissioner may suspend or revoke a permit if he finds that the applicant has not complied with any of the conditions or limitations set forth in the permit or has exceeded the scope of the work as set forth in the application. The commissioner may suspend the permit if the applicant fails to comply with the terms and conditions set forth in the application.

4. The commissioner's order granting, denying, revoking or suspending a permit shall state his findings and reasons for all actions taken pursuant to this section. The commissioner shall cause a copy of such order to be forwarded by registered mail to the chief administrative officer of each municipality within whose boundary any such wetland or portion thereof is located. The commissioner shall also cause notice of such order to be published in at least two newspapers having a general circulation in the area where the affected wetlands are located.

ARTICLE 47—COUNTY ENVIRONMENTAL MANAGEMENT COUNCILS

§ 47-0103. Declaration of policy.—The legislature hereby finds and declares that the management and conservation of our environment is essential to the health and wellbeing of the people of the state. Local county or regional understanding of the importance of all aspects of the environment is necessary for the most balanced use of natural resources. Local participation in planning of activities which influence the ecological balance of the locality and therefore the state is important. It is in the best interest of the citizens of the state to have environmental management councils which shall be responsible for reviewing and advising local and state government on present and proposed methods of using, protecting and conserving the environment for the benefit of all the people.

ARTICLE 49—PROTECTION OF NATURAL AND MAN-MADE BEAUTY

§ 49-0101. Legislative findings

The legislature hereby finds and declares that:

The state enjoys an abundance of natural and man-made beauty which greatly enriches the lives of the people of this state. The preservation, enhancement and promotion of this beauty will contribute significantly to the enjoyment of the people who live and work in the state, as well as the millions of visitors who come to the state each year. Further efforts by state government are needed to coordinate and promote programs contributing to the natural and man-made beauty, and to provide advice and assistance to local governments.

§ 49-0103. General functions, powers and duties of the department

The department shall have the power and it shall be its duty to:

1. Develop, after consultation with local governments and interested persons, groups and institutions, policies and programs to preserve and enhance the natural and man-made beauty of the state, and encourage, facilitate and assist in the coordination of the activities of the various state agencies in furtherance of such policies and programs.

2. Advise, encourage and assist local governments in the development and coordination of policies, programs and activities, and in the full utilization of powers vested in local governments by the Constitution and laws of the state, to preserve and enhance the natural and man-made beauty of the state.

3. Conduct and coordinate studies, surveys and inventories of the vast natural and man-made resources contributing to the beauty of the state by virtue of their scenic, aesthetic, or cultural values.

4. Designate scenic sites, areas, and highways in the state and develop programs for their preservation and enhancement, including but not limited to programs to discourage littering, defacement, and blighting of such scenic sites, areas and highways.

5. Promote the application of aesthetic considerations in the location, design, construction and maintenance of state lands, projects and buildings.

6. Serve as a clearing house for information relating to the preservation and enhancement of natural and man-made beauty.

§ 49–0105. Functions, powers and duties of other departments and agencies

Nothing contained in this article shall be deemed to derogate or detract in any way from the functions, powers and duties prescribed by law of any other department or agency of the state nor to interrupt or preclude the direct relationships of any such department or agency with public corporations and districts for the carrying out of such functions, powers and duties.

§ 49–0107. Assistance of other agencies

To effectuate the purposes of this article, the department may request and receive from any other department, division, board, bureau, commission or other agency of the state or any political subdivision thereof or any public authority such assistance, information and data as will enable the department properly to carry out its powers and duties hereunder.

§ 49–0109. Reports

The department shall from time to time report to the Governor, and shall make an annual report to the governor and the legislature, not later than May first, concerning the work of the department pursuant to this article, in the preceding calendar year.

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(111)

Pennsylvania

Pa. Stat. Ann., Title 71, State Government

ARTICLE XIX-A. POWERS AND DUTIES OF THE DEPARTMENT OF ENVIRONMENTAL RESOURCES, ITS OFFICERS AND DEPARTMENTAL AND ADVISORY BOARDS AND COMMISSIONS [NEW]

§ 510—4. (Adm.Code § 1904—A). Waters

The Department of Environmental Resources shall have the power and its duty shall be:

(1) To study, consider, and determine upon a public policy with regard to the conservation, marketing, and equitable distribution of the water and power to be derived from the utilization of the water resources of the Commonwealth, to the restoration, development, and improvement of transportation by water, to the supply of water and power for municipal, domestic, and industrial use, and to the conservation of water resources by the aid of forestation;

(2) To investigate or examine dams, walls, wing walls, wharves, embankments, abutments, projections, bridges, and other water obstructions, determine whether they are unsafe, need repair, alteration or change in their structure or location, or should be removed, notify owners to repair, alter or change the structure or location or remove the same, repair, alter or change the structure or location or remove the same in emergencies without notice and at the cost of the owners, and apply for injunctions to enforce compliance with or restrain the violation of the law in regard to the safety of dams, or the derogatory effect of walls, wing walls, wharves, embankments, abutments, projections, bridges, or other water obstructions upon the regimen of streams, or the violation of any lawful order or notice of the department in regard thereto. The power of the department under this paragraph shall extend to and include all types of water obstructions, regardless of the date when such obstructions were constructed, and whether or not the same were constructed by express or implied permission of the Commonwealth, or any agency thereof;

(3) To collect such information relative to the existing conditions of the water resources of the State as, in the opinion of the department, shall be necessary for the utilization of waters, and for the conservation, purification, development, and equitable distribution of water and water power resources, and in particular, for the use of such citizens and communities as may be in need of extended facilities for these purposes;

(4) To establish and maintain gauging stations on rivers and their tributaries;

(5) To issue bulletins, during freshet and flood conditions, forecasting guage heights, and the times thereof;

(6) To maintain a complete inventory of all the water resources of the Commonwealth; collect all pertinent data, facts, and information in connection therewith; classify, tabulate, record, and preserve the same; and, upon the basis thereof, determine, the points at which storage reservoirs may be constructed for flood control, for municipal and domestic supply, hydraulic and hydroelectric power, steam raising, steam condensation, navigation, and other utilization; and generally to devise all possible ways and means to conserve and develop the water supply and water resources of the Commonwealth for the use of the people thereof;

(7) To construct, maintain, and operate works for water storage, flood control, channel improvement, or other hydraulic purposes;

(8) To acquire by purchase, lease, gift or condemnation, with the approval of the Governor, such land, buildings and appurtenances thereto, as in the judgment of the department, may be necessary for the construction, maintenance, improvement or development of any port or harbor in this Commonwealth.

§ 510—8. (Adm.Code § 1908–A). Water and power resources

The Department of Environmental Resources shall have the power and its duty shall be:

(1) Subject to any inconsistent provisions in this act contained, to continue to exercise the powers and perform the duties by law vested in and imposed upon the Water Supply Commission of Pennsylvania, or in and upon the Water and Power Resources Board, or in and upon the department, with regard to:

(a) Applications for charters for corporations for the supply of water for the public or for the supply, storage, and transportation of water and water power, for commercial and manufacturing purposes, or for any other water or water power company;

(b) Agreements for the merger and consolidation of two or more such corporations heretofore or hereafter formed;

(c) The sale, assignment, disposition, transfer, and conveyance of the franchises and all the property, real, personal, and mixed, of any such corporation, heretofore or hereafter formed, to any other such corporation;

(d) Consents or permits for the construction of dams, and other water obstructions, or of any change therein or addition thereto, and consents or permits for changing or diminishing the course, current, or cross section, of any stream or body of water;

(e) Permits for the condemnation or appropriation of waters, or for the construction of hydraulic works;

(f) Applications for new or additional sources of supply of water or water power;

(g) Applications by companies for approval of the construction, operation, and maintenance of tunnels under navigable rivers, to connect their power to manufacturing plants, with coal lands wherein such companies have coal mining rights;

(h) The extension of time fixed by law for the beginning or completion of the construction of the works of water or water power companies, inquiry into the standing of water or water power charters, and as to the due diligence and bona fide intent of water and water power companies to fulfill the requirements of law, and the certification of facts to the Attorney General requesting him to institute quo warranto proceedings.

(2) To complete the construction of a dam across the outlet of Pymatuning Swamp, in Crawford County, for the purpose of establishing a reservoir, and conserving the water entering said swamp, and regulating the flow of water in the Shenango and Beaver rivers, and, in connection with this project, to acquire, in the name of the Commonwealth, by purchase, condemnation, or otherwise, such lands as may be needed;

(3) To enter into agreements to sell, lease or otherwise dispose of any iron, coal, limestone, fire-clay, oil, gas and other minerals, except sand and gravel and minerals deposited as silt in pools created by dams, that may be found in or beneath the beds of navigable streams or bodies of water within the Commonwealth and non-navigable streams or bodies of water where the beds thereof are owned by the Commonwealth, on such terms and conditions as the board deems to be in the best interest of the Commonwealth: Provided, however, That any proposed contracts involving more than one thousand dollars ($1,000) shall be awarded to the highest responsible bidder after due advertisement as prescribed by the board. Nothing herein contained shall authorize anyone to interfere with the free navigation of said streams or bodies of water or to undermine the bed thereof or to interfere with the rights of any person or persons holding property on the banks thereof.

Pa. (cont.)

§ 510—17. (Adm.Code § 1917–A). Abatement of nuisances

The Department of Environmental Resources shall have the power and its duty shall be:

(1) To protect the people of this Commonwealth from unsanitary conditions and other nuisances, including any condition which is declared to be a nuisance by any law administered by the department;

(2) To cause examination to be made of nuisances, or questions affecting the security of life and health, in any locality, and, for that purpose, without fee or hinderance,[1] to enter, examine and survey all grounds, vehicles, apartments, buildings, and places, within the Commonwealth, and all persons, authorized by the department to enter, examine and survey such grounds, vehicles, apartments, buildings and places, shall have the powers and authority conferred by law upon constables;

(3) To order such nuisances including those detrimental to the public health to be abated and removed;

(4) If the owner or occupant of any premises, whereon any such nuisance fails to comply with any order of the department for the abatement or removal thereof, to enter upon the premises, to which such order relates, and abate or remove such nuisance;

(5) For the purpose of collecting or recovering the expense of the abatement or removal of a nuisance, to file a claim, or maintain an action, in such manner as may now or hereafter be provided by law, against the owner or occupant of the premises upon or from which such nuisance shall have been abated or removed by the department;

(6) In making examinations as authorized by this section, the Department of Environmental Resources shall cooperate with the Department of Health, for the purpose of avoiding any duplication of inspection or overlapping of functions.

§ 510—20. (Adm.Code § 1920–A). Environmental Quality Board

(a) The Environmental Quality Board shall have the responsibility for developing a master environmental plan for the Commonwealth.

(b) The Environmental Quality Board shall have the power and its duties shall be to formulate, adopt and promulgate such rules and regulations as may be determined by the board for the proper performance of the work of the department, and such rules and regulations, when made by the board, shall become the rules and regulations of the department.

(c) The board shall continue to exercise any power to formulate, adopt and promulgate rules and regulations, heretofore vested in the several persons, departments, boards and commissions set forth in section 1901(a) of this act,[1] and any such rules and regulations promulgated prior to the effective date of this act shall be the rules and regulations of the Department of Environmental Resources until such time as they are modified or repealed by the Environmental Quality Board.

(d) The board shall have the power to subpoena witnesses, records and papers and upon certification to it of failure to obey any such subpoena the Commonwealth Court is empowered after hearing to enter, when proper, an adjudication of contempt and such other order as the circumstances require.

(e) The board shall receive and review reports from the Department of Environmental Resources and shall advise the Department and the Secretary of Environmental Resources on matters of policy.

(f) The board shall establish such rules and regulations, not inconsistent with law, for the control, management, protection, utilization, development, occupancy and use of the lands and resources of State parks, as it may deem necessary to conserve the interests of the Commonwealth. Such rules and regulations shall be compatible with the purposes for which State parks are created.

(g) The board shall establish such rules and regulations, not inconsistent with law, for the control, management, protection, utilization, development, occupancy, and use, of the lands and resources of the State forests, as the department deems proper, to conserve the interests of the Commonwealth. Such rules and regulations shall be compatible with the purposes for which the State forests are created, namely to provide a continuous supply of timber, lumber, wood, and other forest products, to protect the watersheds, conserve the waters, and regulate the flow of rivers and streams of the State and to furnish opportunities for healthful recreation to the public.

§ 510—21. (Adm.Code § 1921–A). Environmental Hearing Board

(a) The Environmental Hearing Board shall have the power and its duties shall be to hold hearings and issue adjudications under the provisions of the act of June 4, 1945 (P.L. 1388), known as the "Administrative Agency Law," [1] on any order, permit, license or decision of the Department of Environmental Resources.

(b) The Environmental Hearing Board shall continue to exercise any power to hold hearings and issue adjudications heretofore vested in the several persons, departments, boards and commissions set forth in section 1901–A of this act.[2]

(c) Anything in any law to the contrary notwithstanding, any action of the Department of Environmental Resources may be taken initially without regard to the Administrative Agency Law, but no such action of the department adversely affecting any person shall be final as to such person until such person has had the opportunity to appeal such action to the Environmental Hearing Board; provided, however, that any such action shall be final as to any person who has not perfected his appeal in the manner hereinafter specified.

(d) An appeal taken to the Environmental Hearing Board from a decision of the Department of Environmental Resources shall not act as a supersedeas, but, upon cause shown and where the circumstances require it, the department and/or the board shall have the power to grant a supersedeas.

(e) Hearings of the Environmental Hearing Board shall be conducted in accordance with rules and regulations adopted by the Environmental Quality Board and such rules and regulations shall include time limits for the taking of appeals, procedures for the taking of appeals, locations at which hearings shall be held and such other rules and regulations as may be determined advisable by the Environmental Quality Board.

(f) The board may employ, with the concurrence of the Secretary of Environmental Resources, hearing examiners and such other personnel as are necessary in the exercise of its functions.

(g) The board shall have the power to subpoena witnesses, records and papers and upon certification to it of failure to obey any such subpoena, the Commonwealth Court is empowered after hearing to enter, when proper, an adjudication of contempt and such other order as the circumstances require.

§ 510—22. (Adm.Code § 1922–A). Citizens Advisory Council

(a) The Citizens Advisory Council shall review all environmental laws of the Commonwealth and make appropriate suggestions for the revision, modification and codification thereof.

(b) The council shall consider, study and review the work of the Department of Environmental Resources and for this purpose, the council shall have access to all books, papers, documents and records pertaining or belonging to the department.

(c) The council shall advise the department, on request, and shall make recommendations upon its initiative, for the improvement of the work of the department.

(d) The council shall report annually to the Governor and to the General Assembly and may make such interim reports as are deemed advisable.

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Pa. (cont.)

§ 510—24. (Adm.Code § 1924–A). Topographic and geologic survey

The Department of Environmental Resources shall have the power, and its duty shall be:

(1) To undertake, conduct, and maintain the organization of a thorough and extended survey of the State, for the purpose of elucidating the geology and topography of the State. Such survey shall disclose such chemical analysis and location of ores, coals, oils, clays, soils, fertilizing and of other useful minerals, and of waters, as shall be necessary to afford the agricultural, mining, metallurgical, and other interests of the State, and the public, a clear insight into the character of its resources. It shall also disclose the location and character of such rock formations, as may be useful in the construction of highways, or for any other purpose;

(2) To collect such specimens as may be necessary to form a complete cabinet collection of specimens of the geological and mineral resources of the State, and deposit the same in the State Museum;

(3) To put the results of the survey, with the results of previous surveys, into form convenient for reference;

(4) To collect copies of the surveys of this and other states and countries, and digest the information therein contained, to the end that the survey hereby contemplated may be made as thorough, practical, and convenient as possible;

(5) To enter into and upon all lands and localities in this State, which it may be necessary to examine, for the purpose of survey, but, in such entry, no damage to property shall be done;

(6) To avail itself as fully as possible of the information maps and surveys, possessed by citizens and corporations of this State, relative to the geology and topography of the State;

(7) To transmit all publications of the survey, or any part thereof, to the Department of Property and Supplies, to be copyrighted by the Secretary of Property and Supplies in the name of the Commonwealth;

(8) To arrange for the cooperation of the United States Geological Survey, or of such other national organization as may be authorized to engage in such work.

§ 510—101. Enforcement unit

There shall be established in the Department of Environmental Resources a unit responsible for the enforcement of all laws within the jurisdiction of the department. The head of such unit shall be a deputy secretary who shall report directly to the Secretary of Environmental Resources. The unit shall have its own staff of investigatory, administrative and technical advisory personnel at both regional and State offices. Special legal counsel will be provided to the unit with the cooperation of the Attorney General.

Virginia

Va. Code Ann., Title 10, Conservation

CHAPTER 17.

VIRGINIA ENVIRONMENTAL QUALITY ACT.

ARTICLE 2.

Council on the Environment.

§ 10-181. Membership; chairman. — The Council on the Environment shall be composed of ten members and an administrator who shall all be citizens of the State. Three shall be appointed by the Governor on the basis of merit without regard to political affiliation, subject to confirmation by the General Assembly, but they shall be permitted to serve in the interim between appointment and confirmation or rejection. They shall hold office at the pleasure of the Governor until their successors take office. The administrator of the Council on the Environment shall serve as chairman. The chairmen of the State Water Control Board, the Board of Conservation and Economic Development, the Game and Inland Fisheries Commission, the Marine Resources Commission, the Soil and Water Conservation Commission and the State Air Pollution Control Board and the Commissioner of Health shall also be members of the Council.

§ 10-183. Meetings. — The Council shall meet at least once every three months, and other meetings may be held at any time or place determined by the Council or upon call of the administrator. All members shall be notified of the time and place of any meeting at least five days in advance. Five members shall constitute a quorum for the transaction of business. The Council shall keep a complete and accurate record of the proceedings at all its meetings, a copy of which shall be kept on file in the office of the Council and open to public inspection.

§ 10-184.1. Appointment, etc., powers and duties of administrator. — The administrator of the Council on the Environment shall be appointed by the Governor, subject to confirmation by the General Assembly, for a term coincident to that of the appointing Governor. Any vacancies occurring in the office of administrator shall be filled by the Governor subject to confirmation by the General Assembly. The administrator of the Council on the Environment shall devote full time to the duties and responsibilities of his office, which shall include the following:

(1) Developing uniform management and administrative systems which will assure coherent environmental policies and which will facilitate provision of environmental services to the public;

(2) Taking necessary steps to promote the efficiency of management and coordinate administrative practices within and among the boards and agencies of the Council including the effective use of personnel resources among the agencies;

(3) [Repealed.]

(4) Coordinating the preparation of a joint environmental agencies' budget, containing subbudgets, each of which shall be approved by the appropriate board or agency and thereafter submitted to the administrator who shall convey without change said budget or budgets to the Secretary and Governor for approval;

(5) Preparing and submitting annually, with the cooperation of the boards and agencies, an environmental and management report to the Governor and the General Assembly in which he shall assess in detail:

(a) The Council's success in achieving the purposes of the enabling legislation.

(b) The reasons for any failure to achieve those purposes.

(c) Any changes in legislation that the Council believes necessary to better achieve those purposes.

(d) Management actions taken in support of the enabling legislation.

(e) New environmental programs to be considered for legislative action.

(f) New environmentally related programs which should be considered by the General Assembly for transfer to another board or agency or to the jurisdiction of the administrator.

Such reports may be prepared in conjunction with the reports of the Council on the Environment as directed by § 10-186.

The administrator shall employ such personnel and procure the necessary professional services to perform the duties of the office.

§ 10-184.2. Multiple permit process: powers and duties of administrator; rules and regulations. — A. If a project requires a State permit or certificate from more than one State environmental regulatory agency, the applicant may make a single unified application to the administrator on a form prescribed by the administrator.

B. Notwithstanding any other provision of law, the administrator shall receive and review the application within twenty-one days and at his discretion may consolidate, coordinate and expedite the permit review process including but not limited to the elimination of redundant or overlapping procedures; consolidation of any formal hearings that may be required into one hearing; and coordination of the processing of permits where both federal and State requirements are involved. . . .

D. Notwithstanding any other provision of law, the acceptance of an application for multiple permits by the administrator, after the administrator has ascertained that the application is complete and otherwise acceptable, shall commence the processing period as to each board or commission involved. The hearing for a multiple State permit shall be held within sixty days after the application to the administrator is complete; and each board or commission decision on a multiple permit shall be made within ninety days after the application to the administrator is complete. In exceptional circumstances or in light of new information presented during a public hearing, a board or commission may extend the time period for consideration of the multiple permit by a board or commission; provided that the extension shall be for a period not to exceed thirty days.

E. Judgment of the merits of each permit that is required shall remain the responsibility of each respective board or commission. Each board or commission shall make every effort to coordinate its permit review process with the administrator.

F. The Council on Environment shall have the authority to issue necessary rules and regulations to carry out the provisions of this section.

Va. (cont.)

§ 10-185. **Further responsibility and authority of administrator.** — It shall be the further responsibility of the administrator of the Council, in accordance with provisions and limitations as may be elsewhere set forth in law to carry out the policy of this chapter. In so doing, the administrator is authorized to:

(1) Coordinate all State communications with federal agencies involving State concern having relation to environmental problems, and to call meetings as needed of heads of State agencies and other personnel to review policies and programs of mutual concern relating to environmental problems;

(2) Make rules and regulations for his own staff organization;

(3) Sue and be sued in the Council's official name;

(4) Enter into and perform contracts; and acquire in any lawful manner personal or real property or any interest therein deemed necessary in the performance of the Council's functions, and to maintain and improve such property or dispose of it when necessary;

(5) Accept and administer services, gifts and other funds donated to the Council to carry out the policy of this chapter;

(6) Engage and pay for the services of professional consultants;

(7) Initiate and supervise research programs.

(8), (9) [Repealed.]

CHAPTER 18.

CRITICAL ENVIRONMENTAL AREAS.

Sec.

10-187. Findings of General Assembly.
10-188. Declaration of policy.
10-189. Definitions.
10-190. Development of criteria for identification of critical environmental areas.
10-191. Delineation of critical environmental areas and protective zones.
10-192. Standards for land use and development within protective zones.
10-193. Control of land use around critical environmental areas.
10-194. Public hearings; copy of proposed criteria and map.
10-195. Findings and recommendations to be presented to Governor and General Assembly.
10-196. Standards not to be put into effect without prior approval of General Assembly.

§ 10-187. **Findings of General Assembly.** — The General Assembly of Virginia finds that:

(a) The Constitution of Virginia sets forth that it shall be the policy of the Commonwealth to protect its atmosphere, lands and waters from pollution, impairment or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth;

(b) Particular land areas and uses should be singled out for immediate and special concern;

(c) These critical areas include the coastal zone and estuary, flood plains, shorelands and other lands which possess special, natural, historic and scenic characteristics;

(d) In controlling the development of these and adjoining areas the observance of existing air and water quality standards and land use controls do not sufficiently guarantee the character of these lands; and

(e) The boundaries of these areas of critical environmental concern should be identified and delineated and a means of protecting and preserving them should be developed.

Va. (cont.)

§ 10-188. Declaration of policy. — In consideration of the findings in § 10-187, the General Assembly hereby declares that it is the policy of the Commonwealth to preserve and protect those irreplaceable areas of natural, scenic and historic value for the benefit, use and enjoyment of the citizens of the Commonwealth, and to insure the protection and preservation of these critical environmental areas by limiting the development and use of land of areas surrounding and such places of natural, scenic and historic value.

§ 10-189. Definitions. — As used in this chapter, unless the context clearly indicates otherwise:

(a) *"Division"* means the Division of State Planning and Community Affairs.
(b) *"Critical environmental area"* means an area of natural, scenic and historic value including but not limited to wetlands, marshlands, shorelands and flood plains of rivers, lakes and streams, wilderness and wildlife habitats, historic buildings and areas.

§ 10-190. Development of criteria for identification of critical environmental areas. — The Division shall develop criteria, both qualitative and quantitative, which shall be used in the identification and delineation of the State's critical environmental areas. In the development of such criteria the Division shall give consideration to a minimum size of such areas necessary for their protection and preservation, the types of usage to which these critical environmental areas are to be put, the extent to which they are of statewide or areawide significance, and any other matters which the Division feels should be considered. In the development of these criteria, the Division shall consult with various State departments, planning district commissions and local governmental agencies, in addition to other interested public and private groups. In particular, the Division shall consult with State agencies having environmental expertise including, but not limited to, the Commission on Outdoor Recreation, the Virginia Institute of Marine Science, the Commission of Game and Inland Fisheries, the Soil and Water Conservation Commission, the Department of Conservation and Economic Development, the Department of Agriculture and Commerce, the Water Control and Air Pollution Control Boards, the Marine Resources Commission and the State Health Department.

§ 10-191. Delineation of critical environmental areas and protective zones. — After it has identified specific criteria in accordance with § 10-190, the Division shall delineate critical environmental areas within the Commonwealth. The Division shall also define and delineate an area around each critical environmental area so identified that will insure the preservation of those critical areas.

§ 10-192. Standards for land use and development within protective zones. — After it has delineated critical environmental areas the Division shall develop and recommend standards for the use and development of land within each protective zone around a critical environmental area. Such standards may include, but shall not be limited to, types of permitted uses, density or intensity of development, air and water quality standards or other performance standards. To the degree possible such standards should be stated in performance terms.

§ 10-193. **Control of land use around critical environmental areas.** — The Division shall develop and recommend means by which the standards shall be applied and the development and use of land around such critical environmental areas be controlled. Consideration shall be given to the existing system of land use control in the Commonwealth. It should recognize both State interests and local prerogatives.

§ 10-194. **Public hearings; copy of proposed criteria and map.** — No later than November one, nineteen hundred seventy-two, the Division shall hold public hearings to permit the submission of comments by any person or agency on the criteria to be established under § 10-190 hereof and on the delineation of critical environmental areas. The Division shall hold as many public hearings as it deems necessary. A copy of the proposed criteria and a map indicating the areas to be delineated under § 10-191 hereof shall be deposited within each planning district in the Commonwealth, and the Division shall provide to any person or governmental agency who so requests a copy of the criteria and map. The criteria shall be open for public inspection and comment for a period of thirty days before any public hearing is held.

§ 10-195. **Findings and recommendations to be presented to Governor and General Assembly.** — The Division shall complete its study of critical environmental areas and present its findings and recommendations to the Governor and the General Assembly not later than December one, nineteen hundred seventy-two.

§ 10-196. **Standards not to be put into effect without prior approval of General Assembly.** — The Division shall not put into effect any standards developed and recommended for the use and development of land within each protective zone around a critical environmental area without the prior approval of the General Assembly.

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At a stated Term of the United States Court of Appeals for the Second Circuit, held in the United States Courthouse in the City of New York, on the sixteenth day of August, one thousand nine hundred and seventy six

PRESENT: HON. ELLSWORTH A. VAN GRAAFEILAND, Chief Judge
HON. ROBERT J. KELLEHER, U.S.D.J.*
HON. LEE P. GAGLIARDI, U.S.D.J.*

*sitting by designation

COUNTY OF SUFFOLK, et al.,

Plaintiffs-Appellees,

v. 76-8369

SECRETARY OF THE INTERIOR, et al.,

Defendants-Appellants,

NATIONAL OCEAN INDUSTRIES ASSOCIATION, et al.,

Intervenor-Defendants-Appellants.

THE STATE OF NEW YORK and THE NATURAL RESOURCES DEFENSE COUNCIL, INC.,

Plaintiffs-Appellees.

v.

THOMAS S. KLEPPE, Secretary of the Interior,

Defendant-Appellant.

In determining the propriety of a preliminary injunction, a major factor for consideration is whether irreparable harm will result or be avoided. We find nothing in this case which satisfies us that the August 17, 1976 sale, in and of itself, will cause appellees any irreparable injury. On the other hand, the national interests, looking toward relief of this country's energy crisis, will be clearly damaged if the proposed sale is aborted. We find this case clearly distinguishable from Izaak Walton League of America v. Schlesinger, 337 F.Supp. 287 (D.D.C. 1971) and Scherr v. Volpe, 466 F.2d 1027 (7th Cir. 1972), in

both of which immediate anti-environmental actions were contemplated. As Judge Weinstein pointed out in this case, "[M]ost expert opinion on the lead time between exploration and production estimates that there will be three years of exploration at a minimum before production activity can begin."

We therefore stay the enforcement of the preliminary injunction order preventing the August 17, 1976 sale and direct that the argument of the appeal from such order be heard during the week of September 27, 1976.

Appellants' records and briefs shall be filed on or before September 10, 1976, appellees' briefs on or before September 23, 1976.

Hon. Ellsworth A. Van Graafeiland

Hon. Robert J. Kelleher

Hon. Lee P. Gagliardi

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SUPREME COURT OF THE UNITED STATES

No. A-150

State of New York, Natural Resources Defense Council, Inc., et al. v. Thomas S. Kleppe, Secretary of the Interior, et al.	On Application to Vacate Stay.

[August 19, 1976]

MR. JUSTICE MARSHALL, Circuit Justice.

On Friday, August 13, 1976, the United States District Court for the Eastern District of New York preliminarily enjoined the Secretary of the Interior from proceeding with plans to open, on August 17, 1976, sealed bids due to be submitted for oil and gas leases of submerged lands under the Mid-Atlantic Outer Continental Shelf. On Monday, August 16, 1976, the United States Court of Appeals for the Second Circuit stayed the District Court's order. The State of New York, the Natural Resources Defense Council, and the counties of Suffolk and Nassau, plaintiffs in the District Court, applied to me as Circuit Justice to vacate the stay. After holding oral argument I concluded that the extraordinary relief they requested was not warranted.

I

The facts are exhaustively stated in the opinion of the District Court, and can be summarized briefly here. In January of 1974, President Nixon directed the Department of the Interior to rapidly lease Outer Continental Shelf lands for mining of oil and natural gas. In accordance with this directive, the Department of the Interior prepared a preliminary environmental impact statement (EIS) held

hearings on the statement, and in July 1975 issued a final impact statement, as required by § 102 (2)(c) of the National Environment Policy Act (NEPA), 42 U. S. C. § 4332 (2)(c) (1970). On September 29, 1975, the Acting Secretary announced his decision to adopt the accelerated oil and gas leasing programs.

One of the areas to be leased under the accelerated program is an area designated as Mid-Atlantic Sale No. 40, consisting of lands off the coasts of New York, New Jersey, Delaware, Maryland, and Virginia. In August 1975, the Secretary announced which tracts within the area would be sold. A new EIS devoted specifically to Sale No. 40 was drafted, hearings were held in January 1976, and a final, four-volume EIS was issued in May 1976. On July 16, 1976, a notice of the proposed sale was published in the Federal Register, 41 Fed. Reg. 29437. Pursuant to the notice, sealed bids were to be submitted for each tract on a cash bonus basis, accompanied by one-fifth of the cash bonus in cash or by cashier's check, bank draft, certified check, or money order. The bids were due by 9:30 a. m. August 17, 1976, and were to be opened beginning at 10 a. m.; the notice stated that if the bids were not opened by midnight, they would be returned unopened to the bidder. *Ibid.* After opening the bids, the Secretary has 30 days to accept the highest bid, *id.*, see 43 CFR § 3302.5; if no bid is accepted within 30 days, all bids are deemed rejected. 43 CFR § 3302.5. Once a bid is accepted, the bidder must sign a lease within a specified time or forfeit his deposit. *Ibid.* The lease grants the lessee the exclusive right to drill for, remove, and dispose of oil and gas deposits in the leased lands, however, the lessee must submit all exploratory drilling plans and development plans to the supervisor of the lease for approval. 30 CFR § 250.34.

Prior to the publication of the notice of the sale, the plaintiffs instituted the instant action to enjoin the sale on the ground that the final EIS did not comply with the requirements of NEPA. After 11 days of hearing the District Court issued a comprehensive opinion. In most respects, the Court found the EIS to be adequate, indeed "[i]f any-

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thing . . . too detailed and encyclopedic for a lay executive to fully comprehend." (Op., at 31.) On one issue, however,—an issue raised by the court *sua sponte* during the hearing—the court found the EIS materially deficient: it failed, in the court's view, to adequately analyze state laws governing the use of shorelines, and to evaluate "the probable extent of state cooperation [with] or opposition" to the off-shore exploration program. To the contrary, the court found that the EIS assumed that the States would grant rights of way for pipelines on shorelands, thereby obviating the need for the lessees to use tankers to transport the oil and minimizing the risk of oil spills. The court concluded that as a result of this single omission, there was a likelihood that plaintiffs would succeed on the merits in demonstrating a violation of NEPA, and it found that plaintiffs would be irreparably injured if the Secretary were permitted to grant the leases without prior compliance with NEPA. Accordingly, the court issued a preliminary injunction.

The Secretary, joined by the National Ocean Industries Association which had intervened on the side of the Secretary, appealed the District Court's order and requested that the injunction be stayed. After hearing oral argument, the Court of Appeals granted the stay. In a brief *per curiam* opinion, the Circuit Court stated:

> "We find nothing in this case which satisfies us that the August 17, 1976 sale, in and of itself, will cause appellees any irreparable injury. On the other hand, the national interests, looking toward relief of this country's energy crisis, will be clearly damaged if the proposed sale is aborted."

II

The power of a Circuit Justice to dissolve a stay is well-settled. See, *e. g.*, *Holtzman* v. *Schlesinger*, 414 U. S. 1304, 1308 (1973) (MARSHALL, J., Circuit Justice); *Meredith* v. *Fair*, 83 S. Ct. 10, 9 L. Ed. 2d 43 (1962) (Black, J., Circuit Justice); *Cunningham* v. *English*, 78 S. Ct. 3, 2 L. Ed. 2d 13 (1957) (Warren, C. J., Circuit Justice). But it is equally

well established that a Circuit Justice should not disturb, "except upon the weightiest considerations, interim determinations of the Court of Appeals in matters pending before it." *O'Rourke* v. *Levine*, 80 S. Ct. 623, 4 L. Ed. 2d 615 (1960) (Harlan, J., Circuit Justice). This is especially true where, as here, I had only a few hours to review the District Court's 200-page opinion, the briefs of the parties, and the four-volume EIS, and where I did not have before me—nor could I have meaningfully considered even if it were here—the voluminous record compiled in the District Court.

Perhaps the most compelling justification for a Circuit Justice to upset an interim decision by a court of appeals would be to protect this Court's power to entertain a petition for certiorari before or after the final judgment of the Court of Appeals. See R. Stern & E. Gressman, Supreme Court Practice § 17.19 (4th ed. 1969). Despite the practical importance of the Secretary of the Interior's decision to issue leases for the Mid-Atlantic Outer Continental Shelf, however, I am not persuaded that the legal question involved here—whether this EIS complied with the uncontested requirements of NEPA—would warrant review by this Court. Just this past Term, in *Kleppe* v. *Sierra Club*, — U. S. — (1976), we had occasion to examine the purposes and requirements of NEPA. Although we disagreed on certain issues, we were unanimous in concluding that the essential requirement of NEPA is that before an agency takes major action, it must have taken "a 'hard look' at environmental consequences." *Kleppe* v. *Sierra Club*, *supra*, at n. 21 (1976), quoting *Natural Resources Defense Council* v. *Morton*, 458 F. 2d 827, 838 (DC Cir. 1972). In evaluating the adequacy of environmental impact statements, the courts of appeals consistently have enforced this essential requirement tempered by a practical "rule of reason."[1] As the Court of Appeals for the Second Circuit has explained:

"[A]n EIS is required to furnish only such information

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[1] See, e. g., *Sierra Club* v. *Morton*, 510 F. 2d 813, 819 (CA5 1975); *Trout Unlimited* v. *Morton*, 509 F. 2d 1276, 1283 (CA9 1974); *Harlem*

as appears to be reasonably necessary under the circumstances for evaluation of the project rather than to be so all-encompassing in scope that the task of preparing it would become either fruitless or well nigh impossible." *Natural Resources Defense Council* v. *Callaway*, 524 F 2d 79, 88 (CA2 1975)

In the instant case, respondents do not appear to challenge the requirement that the agency take a "hard look" at the environmental consequences, nor do petitioners question the appropriateness of employing a rule of reason in evaluating impact statements. Thus, the sole question at issue is whether the District Court properly applied the controlling standards in concluding that the EIS lacked information concerning state regulation of shorelands which was "reasonably necessary" for evaluating the project. That question appropriately is for the Court of Appeals, and I do not believe that four Members of this Court would vote to grant a writ of certiorari to review its conclusion on such a fact-intensive issue. Accordingly, it is not appropriate for me to exercise my extraordinary powers as Circuit Justice in order to preserve a question for review by the full Court.

Nor is it necessary for me to act in this case "to preserve the rights of the parties pending the final determination of the cause." *Meredith* v. *Fair*, *supra*. The Court of Appeals concluded that plaintiffs would not be irreparably injured if the Secretary were permitted to open the bids. I cannot say that the court abused its discretion. It is axiomatic that if the Government, without preparing an adequate impact statement, were to make an "irreversible commitment of resources," *Natural Resources Defense Council* v. *NRC*, Nos. 75-4276, 75-4278, slip op., at 3934 (CA2, May 26, 1976), a citizen's right to have environmental factors taken into account by the decisionmaker would be irreparably impaired.

Valley Transportation Assn. v. *Stafford*, 500 F 2d 328, 337 (CA2 1974); *Iowa Citizens for Environmental Quality* v. *Volpe*, 487 F 2d 852 (CA8 1973); *Natural Resources Defense Council* v. *Morton*, 458 F 2d 827, 834 (DC Cir 1

For this reason, the lower courts repeatedly have enjoined the Government from making such resource commitments without first preparing adequate impact statements.[2] Indeed this past Term, in *Kleppe* v. *Sierra Club*, *supra*, we indicated that it would have been appropriate for the Court of Appeals to have enjoined the approval of mining plans had that court concluded that "the impact statement covering [the mining plans] inadequately analyzed the environmental impacts of, and the alternatives to, their approval." — U. S., at — n. 16.

In the instant case, however, the Court of Appeals apparently decided that the opening of bids does not constitute an "irreversible commitment of resources." I am unprepared to say that the court was wrong in so holding. In the first instance, it is quite clear that the actual opening of the bids does not involve a commitment of any kind, since the Secretary reserves the right to reject all bids. Thus it is not until a bid is accepted—which may not happen for 30 days—that an irreversible commitment is even arguably made.[3] Moreover, even after the bids are accepted, I cannot say that the Court of Appeals would be without power to declare the leases invalid if the court determined that the Government entered into leases without compliance with the requirements of NEPA

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[2] See, e. g., *Natural Resources Defense Council* v. *NRC*, *supra*; *Environmental Defense Fund* v. *TVA*, 468 F. 2d 1164, 1183–1184 (CA6 1972); *Scherr* v. *Volpe*, 466 F. 2d 1027, 1034 (CA7 1972); *Calvert Cliffs Coordinating Comm.* v. *AEC*, 449 F. 2d 1109, 1128 (DC Cir. 1971). See generally F. Anderson, NEPA in the Courts 239–246 (1973).

[3] In the instant case, it is possible that before the bids are accepted the District Court will decide that the defect in the EIS has been remedied by a supplemental affidavit prepared by the Secretary in response to the court's opinion. That affidavit was presented to the Court of Appeals as an appendix to the Government's brief; it was also presented to me, but because it had not yet been given to the District Court, I declined to consider it. I was informed at argument, however, that the affidavit discusses the extent to which the Secretary considered the possibility of lack of state concentration in making his decision to approve Sale No. 40.

For the foregoing reasons, I have concluded that this case does not present the "exceptional circumstances," *Holtzman v. Schlesinger*, *supra*, at 1308, that warrant a Circuit Justice in vacating a stay.

things occurred then that's what he's here for.

But if the statement does contain that type of information, then there is nothing he could say about it.

MR. ZEDROSSER: Your Honor, --

THE COURT: Overruled. Counsel is entitled to proceed in a systematic way.

Go ahead.

BY MR. ZEDROSSER:

Q All right. Could you continue, Mr. Milgram?

A Yes. First kind of accidents, very briefly, described are the kinds of accidents that happen from drilling ships and from platforms. These include blowouts, where either there is a blowout of oil or gas or both through the drill hole or some times through a cracked sea floor. There are fires, which can occur with or without blowouts, concurrent with them. There are accidents related to equipment failure and here I have to be a little more than just -- I have to explain a little more than a single incidence so that the Court will understand.

There is a variety of equipment on a production platform. As an example, one type of equipment is a pneumatic pressure line which runs all around the

platform and in strategic places in this line there are little plugs made out of a metal that will melt if there is a fire. And they get hot. If they melt, the pneumatic pressure is released and the release of automatic pressure activates valves which shut down the flow of oil.

There have been problems related to these so-called shut down devices in the past and in fact, I believe it was about six years ago the OCS regulations or orders, to be very specific, got much more exacting about these requirements.

There is a related kind of equipment failure, for example, wells have devices called blowout preventors, which are -- close the top of the pipe that comes up if something goes wrong.

A major kind of failure that happens with this particular kind of equipment is really related to human error in the sense that there are many operations where the blowout preventor is removed from the well.

Lastly another possible type of accident is structural failure of the platform itself.

Now, turning my attention to pipelines which carry the oil from these off-shore drilling areas to shore if tank ships are not used, there are several types of

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possible accidents.

One is structural failure of the pipeline itself. It can break due to a variety of structural faults in the pipe making, the welding or what have you.

The major enemy to pipelines over the long term is corrosion. This is one reason why older pipelines in the Gulf Of Mexico, for example, have caused more problems than any other pipelines.

The only defense against corrosion is inspection, the kind of inspection can only be done by divers. Thee are limitations on divers due to water depths and visibility. How much he can see of the pipe.

Another type of problem with pipelines deals to external influences. One of them which is especially important is the dragging anchor of a ship. Dragging anchor of a large ship hits a pipeline with much of a force on the ship, the pipeline can rupture.

The areas of concentrated fishing, fishing dragging operations from fishing draggers can interfere with pipelines and cause accidents and lastly, with regard to pipelines, we have this condition known as sandwiches or shifts in the sea floor.

(Continued on next page.)

A 222 For example, the region under a pipe might be eroded by these waves, leaving the pipe bridging a space and if that bridge is too long, it results in tension and the pipeline can cause it to rupture.

The last type of accident I'll address myself to is the accidents that you can have when oil tank ships are used. There are a great variety of these and it is not appropriate to go into all of them now but for purpose of this hearing I think they can be divided into two types.

(Continued on next page.)

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It's the biggest ones.

And that in this context, in places where the impact statement gives significant wave heights, it really should give statistics of the biggest expected waves so one can make estimates of the life, the probable lifetime of structures or structure accident incidents.

You can't make that from significant wave height. You need maximum wave heights. It doesn't give them.

Pages 73 and 74, Vol. 1 of the Programmatic Statement, describes the procedures for detecting pipeline leaks. It is described that if a -- if a leak is large enough to cause 500 lbs. per square inch reduction in pipeline pressure, it will be detected by equipment that monitors pipelines.

I should explain this a little further.

You are pumping oil through a long pipeline and the inlet end high pressure is required to push the oil through the line. If the line should rupture, the oil is coming out of the line more easily than if it had not ruptured and, therefore, the pressure at the upstream end goes down to pump the same amount of fluid through the pipeline.

A 224 If that pressure goes down by an amount equal to 500 PSI, it will be detected. 500 PSI or more.

In other words, if the pipeline pressure at the inlet end is 2000 lbs. per square inch, if it drops to 14 lbs. per square inch, it will be detected.

However, it will not be immediately detected or may not be immediately detected, to be more exact if the pressure drops from 2,000 lbs. per square inch to 1,600 lbs. per square inch.

In fact, in accordance with the way the impact statement describes the leak detection methods, a leak which caused a pressure drop of less than 500 PSI could go on for eight hours without ever being detected.

(continued next page)

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Q Continue.

A The statement fails to point out the crucial implication, that is a leak big enough to cause a pressure reduction of 400 psi's going on for eight hours can result in a very major oil spill in a large pipeline. Lots of oil. Some pipelines, it's a rough estimate, in that amount of time can spill a million gallons.

Pages 25 and 26 of Volume 2 of the Site Specific Statement states that the calculated statistics for anticipated pipeline accidents in the North Atlantic are based on Gulf of Mexico data. There are a number of things that should be said about this because of the differences between the Gulf and North Atlantic.

The very same section of the statement I referred to indicates that one of the major cases of pipeline accidents is due to ships dragging anchors.

Now then, the North Atlantic, in places, has bottoms that are particularly rocky. Not everywhere, but some places. It's indicated throughout the statements that in general in specific pipeline corridors pipelines are supposed to be buried.

If the bottom is rocky, the burial indeed may not take place. The burial is not done by a man on the bottom digging but it is done by a machine which jets water

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underneath the pipeline to make a ditch. If the bottom is particularly rocky the ditch will not be made.

The fact that there are potential regions -- will be potential regions is brought out in the draft of the Site Specific Statement, the white one, but in fact is omitted from the yellow one, which is the final statement.

THE COURT: The bottom sediment chart shows sand and sill throughout, doesn't it?

MR. ZEDROSSER: I take it the Court is referring to the chart relating to the lease sale 40 area, is that correct?

THE COURT: Yes. Are you talking about this particular 40?

THE WITNESS: Yes, this 40 between the white document which says there are rocky areas on the bottom where the pipeline may not be buried and the yellow.

Q Your observation about the possible rocky bottom, is this an observation specifically with reference to the transaction in the lease 40 sale or one generally with reference tothe Atlantic -- say North and Middle Atlantic?

A Your question must be answered in two parts. One part, there is a certain region which is rocky. The

second answer refers specifically to the fact that the draft statement which is for these lease 40 areas does make the statement that the bottom is rocky and in places, and the region where the pipeline may not be buried.

THE COURT: What is the situation at the 40? Is it a rocky bottom that they will use for pipe?

I take it the pipes would go into the direction of New Jersey or Delaware probably?

MR. ZEDROSSER: Your Honor --

MR. HYMAN: May I remind the Court that we are not building a pipeline here. The test here is should we lease.

THE COURT: I understand.

I want to try to understand it myself.

MR. ZEDROSSER: As to the visuals, it only deals with bottom sediment. Now, you may have bottom sediment that doesn't necessarily -

THE COURT: Excuse me. I would rather hear it from the witness.

MR. ZEDROSSER: All right.

THE COURT: With all due respect.

Have you examined the bottom in this area?

THE WITNESS: I have not personally.

THE COURT: Your testimony is hypothetical?

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THE WITNESS: My testimony is based on what I read in the impact statement and my knowledge of other areas of the Atlantic.

THE COURT: We are more concerned with 40. Move on to something else.

Q Continue.

A On pages 31 and 32 of Volume 2 of the Site Specific Statement, it is stated that with regard to this tanker accidents will be minimal the way pipelines will be used.

I've read in other places and in other documents that pipelines will be used if economically feasible and also there does not seem to be any specific requirement that pipelines will be used.

One would expect that in the beginning stages of track development that tank ships would be used and in fact that is stated in some writings for another Atlantic track I've recently seen.

The pragmatic statement does not discuss in very much detail the effect of variances, waves, and other risks. Volume 2 does discuss variances. Volume 1 doesn't. Volume 2 does discuss the effect. As said, they don't increase risk. Some variances do and some variances do not in my opinion.

casing? Indeed, if the casing is cut off at the mudline, it could entangle fishing gear. The fishing gear would be lost but it wouldn't spill oil.

The situation is different if you have a live well. The pragmatic statement in Volume 1, Page 41, talks about what happens if on drilling you strike oil. It describes that the well is capped with a thick underwater stub, and it lists the requirements and what you must do to minimize the risk of fisnermen tangling gear in that stub.

You must understand there is a possibility of heavy gear which not only rocks the fishing gear but also you can have an oil spill. It states if the water depth where the stub is placed is less than 200 feet, the stub by law has to be marked with a buouy.

It further states if the water depth is 85 feet or less, the buouy has to have a light on it so you can see it at night.

I call the Court's attention to Page 186 of Volume 2 of the Site Specific Statement which indicates that in spite of thorough procedures for the buouys, many of them are lost. So we see ourselves faced with a situation where we can have underwater stubs with a reasonable probability that the marking that is required will be missing.

(Continued next page.)

A (Continuing.) From my own experience I can testify to the fact many navigational buoys are missing -- regular U.S. Coast Guard buoys. This is a problem which I think deserves a special consideration in areas which have active commercial fishing.

Page 69, Volume 1 of the programatic statement states that if there were any place there is a pipeline, if the water depth is below 200 feet, the pipeline has to be buried.

Again, there is no description of how that requirement is policed.

Lastly, I call the Court's attention to Page 77 of Volume 1 of the programatic statement which describes abandoning of wells whose product is complete and all the comments I made to dry wells applies there.

Requirements are the same and lack of policing problems seem to be the same.

That completes the statement.

Q Is it your testimony then that the contact of fishing equipment with the pipeline could result in both an oil spill and damage to the --

MR. HYMAN: I object to the leading. He is an expert.

THE COURT: Overruled.

A Yes, my contention is indeed if fishing equipment were to be entangled with the pipeline and if the equipment were heavy fishing equipment, a heavy fishing vessel, as a result of the accident they could lose fishing gear and cause an oil spill.

Q For clarification, with reference to your prior testimony on the Bay Marchard incident, was there an oil spill in that incident?

A I cannot answer that authoritatively. There was a large fire. How much of the fire was extinguished -- it's possible most of the oil burned. I can't tell you.

Q Moving away from the subject of accidents, Dr. Milgram, could you describe for the Court some of the phenomenon and procedures involved in the containment and cleaning up of oil spills that have occurred?

MR. HYMAN: I object to the general nature of the questions. It's not a question and answer procedure. He goes on and testifies as if he is giving a lecture. Is it possible to get specific relevant data from the witness in the form of testimony? Again, the Government's case is burdensome by this type of testimony.

I think the normal question and answer procedure can be followed. I know the rules provide

the tract should be subdivided into regions, for purpose of illustration, let's talk about squares, ten miles on a side, ten mile by ten mile squares.

And each of those squares then should have a number of what I call total spill clean-up systems. At that size range, exotic transportation whould not be required. And I think that's a reasonable cut off point.

There has been some more or less exotic transportation schemes worked out but I do point out to the Court that any of the ones that are very fast are not very good any way because you always have to have ships and vessels at the site of a spill to maneuver the equipment anyway and so you are limited by the speed at which they can get there.

Q Now, Dr. Milgram, if a large oil spill occurred in the off-shore Mid-Atlantic and prevailing climatic conditions including wind and sea conditions, moved it towards shore, could we contain as much as 51 per cent of such a spill?

A With today's technology?

MR. HYMAN: No, Judge. There is no -- there has been no evidence from this witness about percentages, his background to give such percentages. The suggestion of percentages is coming from the

attorney who is not under oath and I know I could cross-examine him but it's going to go on unless we have at least in this area some specific knowledge of how this witness is basing his testimony.

THE COURT: Overruled.

MR. RYMAN: Thank you.

Q Do you want the question read or do you recall?

A I recall the question. May I wanswer?

THE COURT: You may.

A I think under most prevailing conditions, with today's technology, the answer is we could not collect 51 -- more than half of it before it reached shore.

Q What is the basis for that opinion?

A The basis for that is, No. 1, there are extremely few tow vessels available that can -- that can handle the large equipment you would need for a large spill. For a small spill, a few gallons that's one thing but if -- if you spill 100 or 200, 1,000 or 1,000,000 gallons, the -- you are going to need these large systems and there are no tow vessels available. Only very limited, very few barriers, very few skimmers available.

I know, for example, the Atlantic Coast Guard Strike Team has two big skimmers, one of which is

oil.

I indicated this here, but what the statement fails to point out is that because of the coverage problem, sorbents are really only appropriate for small spills or spills confined to a smaller area.

One of the major differences between offshore spills and spills in protective waters is going to be the area that the spill covers.

I also should point out that a very crude oil clean-up system which I did not describe in detail which is based on sorbents has been very -- found quite effective in on-shore spills but it is not appropriate for offshore spills, and that's just an enormous rope, that big around (indicating), in diameter, made out of a sorbent material and they stretch this rope between two pulleys and let it hang in the oil and drive it, run it around, and after it goes through the oil, they squeeze it through some rollers and pick up the oil it contacts. Very crude but it works.

Can't use it offshore yet. Can't cover enough area with it.

On page 252 of Volume 2 of the Programmatic Statement, it is stated that the USGS must approve the contingency plans for offshore operators, and I ask, how much does the USGS know about cleaning up oil?

This nation has tasked the EPA and the Coast Guard with cleaning up oil spills, not the USGS, but who has to cover the contingency plans? The USGS.

I don't seem to understand that. I don't know that that's their field of expertise.

In Volume II of the Programmatic Statement, page 453, there is -- there is a very peculiar statement. It is a quotation about which no more is said than giving the quotation itself, and the quotation is as follows:

"Clean-up technology is primitive and inconvenient, write Cash, White and others, but probably adequate for most spills."

Now, I ask how primitive and inconvenient technology can be adequate. In point of fact, for offshore spills it isn't.

In Volume II --

Q Dr. Millgram, just to clarify, could you give the page number of that?

A Did I not? Page 453.

Q Would you check to see if it's 253 or 453?

THE COURT: I thought you said 453 first.

THE WITNESS: I said 453, but my notation on the page numbers could conceivably be in error.

Q O.K. Could you perhaps check that?

set up just for cleaning up oil spills.

But here was some equipment they hadn't seen before. The first time they tried to use it they made an awful mess. It is because they weren't trained.

The next day, after they had been through it once, they did just fine, as they did the next -- the following day.

It shows the very important aspects of the problem of people training, which is really absent in this statement.

I can't emphasize it strongly enough.

On page 435 of the Site Specific Statement, Volume II, and also page 442 of the same Volume, it is stated that the U.S. Coast Guard high speed boom is ineffective in two-knot currents.

As I indicated before, no boom is effective in two-knot currents. That statement isn't true. It's got nothing to do with the boom.

The entrainment phenomenon will take place at two knots. We've seen it. That statement is misleading, at best.

At page 435 of the Site Specific Statement, Volume II, it is stated that the Coast Guard has an Ocean Systems Incorporated oil skimmer which requires several men working for 20 hours to assemble.

This statement does not go into the fact that in 20

hours oil is going to have spread a long way and be awfully difficult to clean up.

A major -- what's the right word -- advantage can be gained if you can get to an oil spill quickly.

If you wait 20 hours, the cat is out of the bag.

Page 435 of the Site Specific Statement, Volume II, says that available is a skimmer made by the Lockheed Corporation which will recover a mixture of oil and water which is 90 percent oil in six-foot seas and two-knot currents at 20-knot winds.

That may be a manufacturer's claim.

About a little over a year ago, the Coast Guard tested that skimmer and others, and in the case of that skimmer, and in fact all the skimmers, the recovery mixture was much less than 90 percent oil. So that statement is just erroneous.

The manufacturer may claim that's the case, but that's not what tests have indicated. In waves. You can probably get 90 percent oil with skimmers like that, without waves.

Page 85 of Volume I of the Programmatic Statement describes the advantages of air deployment of equipment.

To my way of thinking, air deployment has no advantage because, as I described before, you have to have boats there, anyway. You can drop equipment but if there is nobody to

short questions. I could -- I think represent that we would be done by one, your Honor.

THE COURT: Well, that won't be sufficient for my purposes.

In any event, you finish your testimony and then counsel can mark the documents and prepare cross during the lunch hour. We will convene at 2:25.

Make your final statement.

THE WITNESS: My final statement deals with a criticism based on the logistics of cleaning up oil spills.

Page 432 of the Site Specific Statement, Volume II, states that if an oil spill occurs, the appointed on-scene coordinator for that spill is to have a deliberation with representative of the States that might be impacted with the spill.

I don't know if I'm out of turn by saying it this way, that's crazy. After you spill oil is no time to go have a deliberation.

The thing to do is get out there and start cleaning it up before it spreads very far.

But the -- the impact statement says that aft oil has spilled there is going to be a deliberation to see who should clean it up and whether the spiller can

Q Okay. Good.

By the way, on page 435 of the statement there appears various different pollution containment and recover equipment pipes; is that correct? Do you remember reading that?

A Yes, I read it.

Q Did you have anything to do with the design or testing of any of the types of equipment listed on that page?

A Yes.

Q Which one would that be?

A May I have the document?

More than one. Second item, in fact I made a comment about this. The high speed containment barrier which the Atlantic Strike Team had. I had a role in designing. I pointed out that its qualifications are overstated here. It can't do everything it says it will do in this book.

The next item, high sea oil recovery systems of Ocean Systems, Incorporated, I participated in the sea trials of that device. The Coast Guard had a contract with M.I.T. for providing people to make measurements both on the device and in the sea during the testing of that, and I went to sea with that device.

Q Are there any misstatements concerning that device in the final statement?

A Certainly a misstatement in that the device

won't do what the specifications here say it will.

Q There is a difference between a statement that says "Designed to recover" and to what in actual life experience would actually happen; is that correct?

Engineering-wise? You could design a thing to do X but it only does half of X?

A Only if you're a very poor designer.

Q You're the one who designed some of these; is that correct?

A Yes, but I didn't say -- I didn't tell you what my specifications were.

Q Now, the area of accidents are covered in the statement; is that correct?

A Yes.

Q And the reader reading the statement would read about the tragedies that could have occurred?

A Read about some of them, yes.

Q And the area of the limitations in oil containment and recovery are contained in the statement?

A No. The limitations are very inadequately covered, and in fact erroneously stated.

Q Well, what's inadequate and erroneous about the statement, "Oil spill containment on the open sea then is severely limited"? Is that an erroneous statement?

Q Do you mean the industry itself was policing itself?

A I am sure it did.

Q Is a storm chock a pre-planned emergency device for prevention of blow-outs?

A It doesn't prevent them but reduces the number, indeed.

Q To prevent a more serious result from conditions that created blow-outs?

A I don't like the word prevent. To reduce chances. It leads to a new sub-safety value.

Q A storm chock is a safety device designed to reduce the chances of blow-out?

A Yes.

Q You testified this morning also, Dr. Milgram, concerning the hazards of transportation of oil by pipeline, I believe, structure failure, dragging of anchors across lines, etc. Do you agree with me that the transportation of oil by pipeline is environmentally more safe than transportation by tanker?

A Absolutely.

Q In the statement involved in this litigation it recognizes that?

A Yes. They do not require that you use pipelines,

however.

Q Well, since you brought that up, let's talk about that for a second. Let me refer you to the second volume of the Site Specific Statement on page 463.

Before directing you to that particular part, do I understand you to say you do not find in the statement any requirement that the oil be transported by pipeline other than by tanker?

A No absolute requirement, that is correct.

Q On page 463, under the heading of -- this is Volume 2 of the Site Specific which is Defendant's Exhibit B -- under the heading Shipping of Oil, there is a suggestion stipulated that would minimize the transportation by tankers?

A Minimize, but by no means outlaw it.

Q Read the stipulation suggested on that page.

A Bottom of the page, if feasible, pipeline requirements -- laying such pipeline is technically and economically feasible, no crude oil production will be transported by surface vessel from offshore production to adjacent on-shore facilities except in cases of emergency.

The determination as to emergency conditions and the technical economic and feasibility of pipeline laying would be made by the Supervisor.

Now, for continuous production, transportation

of crude oil by barge from offshore production to adjacent on-shore facility will not be permitted.

That means you can use pipes and tankers and you can't use barges?

A Yes.

Q It means you can only use tank ships and --

A Any time a pipe is not feasible you can.

Q Stated another way, the lessee is not permitted to transport oil by tankers unless it is not economically feasible to do it by pipeline?

MR. ZEDROSSER: The witness has been questioned several times with regard to the same material. The statement is in evidence and it does speak for itself. I think the point has been belabored.

THE COURT: You may inquire.

Q Can you answer the question?

A Well, just repeat the question.

MR. LAFITTE: Can you do that?

(Whereupon, the last question was read by the reporter.)

A That is a double negative. That is a true statement.

Q Do you know whether this stipulation is in fact --

MR. ZEDROSSER: I really object to this. I

7.6 milligrams per liter of zinc in the environment within which the fish were existing.

Of great concern to biologists and myself, particularly, is that death is a rather final point for an organism. Once it dies there is little one can do about it. But there is the recognition that concentrations of metals in the environment below those which produce observable death may indeed have significant effects on the organisms.

So, I began to look at what would be potentially sub-lethal effects of zinc on the same population of fish and we just did a series of studies in which we tried to deduce what one could describe from the death point as a safe concentration and we discerned over a 96 hour period that a value of 1.8 milligrams per liter for the same fish under the same environmental conditions would not produce death. In fact, it didn't produce death in three and four times 96 hours.

I then sought to see whether or not one could determine whether there was any effect on the organism not observable. So, we did tissue culture studies in which we utilized primary particular culture explants from the epithelium of the fish.

You remove the skin covering layer below the scales and grow this out in an appropriate nutrient media and then add to these cultures, varying concentrations of your

metal toxicant.

When we did this we found that the so-called 1.8 part per million dose safe for the total organism and its population, reduced the growth rate of the cells in culture by 50 per cent.

Fifty per cent reduction in growth rate -- essentially by stopping mitosis -- that is, cell division -- was a rather dramatic and, previous to this study, unobserved effect.

We therefore postulated that rather than attempt to erect a so-called safe load into the environment -- by this, I mean when one does a study one of the things you'd like to be able to do is tell somebody from your best judgment what you consider to be a safe concentration in the environment which would not have a damaging impact on the organism and we found when one does appropriate calculations from a 24 hour and 48 hour toxicity standpoint using death as an end result -- and that was the previous 1.8 value I mentioned -- this did not kill the organism.

But, if that same dose produces a significant biological effect at the cellular level, then it is not safe.

So, we used the tissue technique to observe a non-observable effect at the cellular level and we found 0.7 parts per million did not interrupt cellular division which

was the end point of our study.

Based on that we said that a better handle at determining a safe level is to use a value which approaches about a tenth of what is the 96 hour median tolerance level sometimes referred to as the EC 50 level, the level in the environment that effects 50 per cent of the organisms.

I say that because one of the problems with metal toxicity -- if I have a body of water I can measure the metal I put in. It becomes difficult to determine in short time frames how much of that amount of metal is getting into the specific test organism and impinging on it. That involves a more sophisticated approach and not commonly utilized in straight toxic generation studies.

When we determined the cellular culture approach for fish gave us give values I became concerned with whether or not one could modify and treat algal cells that are in the environment and which are, as a base of the food chain, very important organisms, by the same way.

Previous studies using algal cells involved an estimate of growth by sophisticated techniques using carbon, C 14, radioactive carbon as a measure of growth.

A simpler method was to weigh the amount of algae you had at the start of the study, expose the organism for specific periods, weigh the amount at the end of the study

concentrations of lead particularly and to some degree zinc which were leaching into the environment both from the so-called abandoned mine tailings and also from the actual ongoing operation of washing mine sediments to remove the economically treatable ore.

More recently one can remember --

Excuse me, may I have a cup of water?

THE COURT: Surely.

THE WITNESS: The more recent problem and obvious impact of metals that I want to acquaint you with, or to remind you of actually, since you are probably all familiar with it, and that was an event that occurred during the period of the fifties and sixties in Kyochru, Japan, known as Minimata Bay, which is a marine environment. Adjacent to Minimata Bay there was a plant whose prime purpose was to make one of the plastic vinyl chlorides. And in the manufacturing process a catalyzing for the reaction is used. And the catalyzer was a salt of mercury, mercuric chloride. The residual wash water from this process was simply dumped into Minimata Bay.

Now, if one looks at Minimata Bay, one would not observe anything. If one looked at the organism in Minimata Bay for the most part they seem to be

reasonably good. They saw fish swimming around. They were caught there in abundance. The shellfish were being caught in abundance. But what was observed was that a total of 111 people of the local population of this area became rather severely poisoned. Of the 111 total which became severely poisoned, at least 40 of them ultimately died. The remainder suffered varying degrees from minor to rather severe neurological damage to the brain and neurological system.

Studies by public health experts determined that these people were suffering from mercuric poisoning. In an effort to find out where they were getting these high-bodied burdens of mercury, studies were done on the food that these people had been eating. And it was determined that the fish and shellfish that they were catching in Minamata Bay were very, very high in mercury, and that they were getting their body burdens of mercury from the fish that were swimming in the area, but that they were eating.

This became a rather famous and rather epic situation of mercuric poisoning by acquiring it through aquatic food chains.

One of the studies indicate that what essentially was happening was that this salt of mercuric chloride, when it enters the acquatic environment is acted on bacteria within the environment and is converted from the metal salt into an organo-metal, methol mercury, or an organ compound tended to be absorbed into the body much more readily than some of the metal salts, and, indeed, are stored in the body for long periods of time. And what was happening was that the methol mercury was entering the food chain at various levels, and as the oceano-plentic -- it was not accumulating in these organisms, but was being magnified through the food chain -- that is, if one organism is receiving a burden of a particular toxin from the environment due to exposure, it also receives a burden due to what it eats. And the concentration of the material that it gets through feeding is directly dependent on how much material is in the food. That is, dependant on what is in the food of that which is eaten. So that if one looks at this, one can find the lower levels of the food chains incorporating relatively small amounts of material. And as they are eaten by higher and higher organisms, the concentration per organism

tends to build up by the time you reach high levels in the food chain.

So there is a clear example of how a relatively inadvertent action by man, without any wilful malice, completely damaged the environment of the local area, and impacted after biological changes of the introduced material directly on man himself.

I think that's sort of a thumbnail sketch of generally what the role of metals can be within the environment.

Q Dr. Rachlin, one small point. And that is the -- with reference to the impact of heavy metals in reducing the growth of cells, what is the significance of that in the long run?

A Ultimately if the reduction in growth of cells is continued either for alcove population -- specifically for alcove population, you will wind up with a lowered population over the long run. For particular organisms in which you are affecting their own internal cells -- if, for example, one happens to be reducing the rate of myetosis -- that is, some division -- and miosis, for that matter, the production of gametes in an organism, you can affect its ability to appropriate. So that you will have a population effect on the particular organism. If you are not dealing

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with population, continued slow growth of cells or retarded group of its own cells for long periods of time eventually can accumulate because of the ultimate death of the organism.

Q If there is a reduction of population on the lower end of the food chain, what effect does that have?

A If there is a significant reduction of population on the lower end of the food chain, since everything above those are dependent on the lower end, you would get what could be called a domino effect moving up through the food chain. That is, you would have to lower the ultrafarrats because they can only be supported by the existing base.

Q Are your general comments regarding the different sources of heavy metal burdens in marine environment applicable to the mid-Atlantic area?

A Yes, they are. In reading the particular documents I was concerned specifically and will talk specifically about the problem with regard to metal pollution or the introduction of heavy metals resulting from drill cuttings and drill muds as a particular operation, the problem of formation water, the problem relating to pipeline verrels, and would only mention the fact that some of the oils, particularly the crude oils, as indicated in

Indicating that there are clear information gaps the specific kinds of information I cited as things we would need to determine such as what an exact toxi level is away from an area of discharge such as the items we indicated.

I find also in the documents no assessment by any real referral to the literature of what could constitute a hazardous burden of introduction and what would constitute a safe introduction of metal, and if one were to use some value based on existing literature studies, one could at least get an approximation of what would be a reasonably safe value and then address oneself to the problem of whether the material put in would exceed that or not and that material I found nowehre in the documents.

Q Dr. Rachlin, I hand you a document previously marked for identification as plaintiff's exhibit 13 for identification and I ask you to identify that.

A This is a document, a series of stapled pages. The front page says, appendix; the characteristics of inorganic metal pollutants.

(continued next page)

MR. ZEDROSSER: That was distributed Friday and as the subject of the colloquy at the end of the session on Friday.

MR. JENSEN: Before proceeding with the examination of this document we would like to indicate that as far as that colloquy on Friday, at that time there was a representation made that that document was self-authenticated since it was obtained from the files of the Department of the Interior.

What it consists of is xerox papers of independent scientific studies. They are not reproduced in full and we have not been able to locate them.

We submit there are serious problems of authentication.

MR. ZEDROSSER: The point made here is a very modest one, not in conflict with what the gentleman said.

It was an appendix to a preliminary draft which, I confirmed today with other state officials, was received at the BLM office in September of 1975.

We are not saying they came up with the figures and I agree it says this came from National Academy of Science papers but that is not the point.

It is just that it was included physically amongst the papers in the preliminary draft.

THE COURT: You may proceed.

DIRECT EXAMINATION

BY MR. SEDROSSER: (Continuing.)

Q You have any comment regarding the exhibit before you?

A Yes.

If one went through all of the papers one would see what was done on these sheets is that there is an alphabetical listing of metals which is by no means complete.

It then consists of a series of reference citations to studies performed.

At the end of each of the metals cited there is, in slightly larger type, a recommendation.

If I may for the moment, it says, in the case of barium that on the basis of the data available at this time it is suggested that concentrations of barium equal to or exceeding 1 miligram per liter constitute a hazard in the marine environment. Levels less than .5 miligrams would represent minimal risk of dilatory effects.

For cromium, on the basis of data available at this time, it is suggested that concentrations of cromium equal to or exceeding 0.1 miligrams per liter constitute a

hazard to the marine environment and less than .05 presents minimal risks of dilatorious effects and with regard to oysters this should be maintained at less than 0.01.

Iron, it is indicated that on the basis of data available it is suggested that concentrations of iron equal to or exceeding 0.3 miligrams per liter constitute a hazard to the marine environment and levels less than 0.05 present minimum risks of dilatorious effects and so on for the various metals.

There are recommendations of both the hazardous levels and those levels felt to be below effective.

For mercury, it tells you that concentrations equal to or exceeding .1 micrograms -- that is a thousandth of a miligram per liter -- constitute a hazard in the marine organisms.

With mercury, one is concerned with the part per billion and not million per liter.

There is a potential for each of the specific metals one would be concerned with.

Information of this nature in this document would have been extremely helpful and statements indicating that at least, based on past experience or projected estimates, that some distances away from a particular operation we would not exceed these levels would have been helpful in

determining the true level of metal impact.

Q Is the kind or level of information about recommended levels such as in that exhibit before you contained in the mid-Atlantic or final document?

A Such as recommendations in this particular document?

Q Yes.

A No, it is not.

MR. ZEDROSSER: I would ask that it be marked in evidence.

THE COURT: So marked.

Q Dr. Rachlin, when you mentioned certain amounts of ferrochrome ligno sulfonate as being discharged directly into the marine environment, were you referring there to the exploration phase?

A Yes, I was.

The numbers were based on the numbers generated on the final figures given in the exploration phase.

Q Were you referring there simply to the 90 percent directly discharged or the total amount?

A That was based on the 90 percent figure since that is the figure used by the document.

Q Dr. Rachlin, do you have any further comments regarding the treatment of the affects of drilling muds in the

THE COURT: 50 miles offshore.

THE WITNESS: Yes, I know. But there are organisms that might break through this environment. Okay. And if one were to look at a potential problem -- if I can construct a hypothetical example for the moment, let's assume that we have larva fishes, and larva of some form inadvertently moved through an area where they are being severely impacted by a formation water problem just in the local area around the well. Okay. And as it goes out, and presumably those organisms die, in terms of the total environment, if it's a one shot problem, one could probably say, well, it's not really very significant. There could be some recovery.

Suppose, however, that this is happening to larva of a particular species of fish which at the same time is happening or has happened over the last couple of weeks off Sandy Hook, from Sandy Hook down to -- say, some 50 odd miles, there's been a massive amount of fish killed through totally unrelated indications. You have the stream where you have an impact here related to operations. You have the normal activity that's causing other environmental impact in the environment. If they both coincidentally affect the

same species of fish, then indeed you might have a serious problem. If you hit spawning adults to some significantly low level due to something unrelated while coincidental to the progeny, then you wind up with a potentially significant reduction in population that could conceivably occur. And, therefore, it is something which one should bear in mind. And I would answer the question that it could be of potentially important concern.

Q Dr. Rachlin, could you comment on the subject of the treatment of the pipeline burial operations in the programmatic and the middle Atlantic impact statements.

A Yes. With regard to the problem of pipeline burial, as indicated in the documents, particularly in the final OCS document in Volume 2, somewhere I think about page 20, it describes adjacent to that particular section that the essential method of laying the pipeline is to use an air water jet trench digging procedure, in which a trench approximately 5 feet deep by 6 to 12 feet in width will be amended. As this air water jet with appropriate fins to cause lateral movements of sediments and will scour this trench, and then the pipes which are being fitted together on barges, welded, inspection by x-ray, and then are moving across the area, and then are deposited in back into the -- they are left

off at the back of the barge and they kind of snake into the trench and become buried as the resuspended sediments settle back down on them. There is also an indication that appropriate weights, if that becomes a need, to make sure that they do indeed settle. Indeed, there is a problem that I have in my own mind which is of concern in at least three aspects with regard to this particular operation. And that is, clearly, you are increasing the timidity in the region where you are resuspending the sediment as you move, as you go through your pipeline burial operation, depending on the kind of substrate you move through, the kind of bottom from the oil well area, the shore area, and you are in the process of resuspending, and the sediments will be resuspending whatever burden of heavy metals has been sitting there, and locked into the sediments, not bothering anything in the water column because it's been there for long periods of time. And if you move through that, you will resuspend it, and that will become a problem, particularly if you're dealing in an area where movement has occurred out of a potential difference which has happened with the sludge situation.

So the movement of heavy metals moving up can be a significant problem.

In addition to that, because we have an

environment which has heavy industrialization and urbanization and agriculture, and thereby there are noxious materials, and there are present organic materials and the like, and these materials will be put back in and this will become a particularly important problem the closer we get to the coastal area.

Now, in terms of getting a feel for what this is all about in terms of the actual numbers that are involved, I use the numbers that were presented to get some idea of how much sediment is moving around. There is an assumption that approximately 80,000 cubic yards of sediments will be moved per disturbed mile. This is found in both the draft and the programmatic statements for the mid-Atlantic region.

In the draft document for the mid-Atlantic region on volume 2, page 18, they talk about four corridors with two pipelines per corridor traversing a sea bottom of between 30 to 570 miles. Using that assumption they calculate a figure of 800,000 to 8-million cubic yards of sediments resuspended.

In the final document, the sale 40for the same volume on 2, page 18, they again make a statement about 1 to 4 corridors might be used. But the example is now for 4 pipelines traversing 100 to 570 miles. And in the same

volume 1, page 21, using that same 6,000 figure, they are now coming up with a total sediment resuspension of better than 800,000 to only 4,560,000 cubic yards. What apparently is the movement from the floor corridor, two pipeline corridor case, to a more median situation of only four pipelines of concern, and so that the total numbers of resuspended sediments seem to be less.

Now, my concern about this, as I have indicated earlier, is specifically what is the heavy metal burden, and burden of other noxious metals in the sediments that are going through. There is no information here and so one cannot estimate the impact, although that is the material that can be found out. The timidity again will depend on the particles seized of the suspended sediments and on the hydrodrematics of the water. The problem is that they become a significant problem as one moves closer to shore where the sediments become finer rather than coarser, and also have a high burden of waste associated with them. They will be lighter and suspended in the water column for longer periods of time. The timidity versus the photosynthesis problem I indicated with drilling muds, and the same thing occurs. But now are magnified toward shallow water in the coast where you have an active nutrient load. So you've got good photosynthesis and you've got to lighten

it by timidity plus the toxic problem carrying all of these organics. There's a problem of timidity clogging. Again, filter feeders which are in the substrates in the area. And there is the problem of respiration to organisms that are subject to this timidity low.

The thing here is that we have a problem in that respiration can be caused by a number of respiration deficiencies due to this problem. Timidity through re-suspension can occur to a number of mechanisms. At least three. I would quantify one of them as an actual reduction in the dissolved oxygen available in the water column. And this would come about by reducing sediments which have a high chemical or biological oxygen demand, particularly if they are heavy in organics. That is, the chemicals themselves become oxydized. The oxygen for the process is what is dissolved in the water column. And the water column goes down.

A classic example of something like that is the movement of sewage flow off the battery in New York which they go through in June . And it initially goes out when the water -- the DO goes down because of the organic impact literally sucking it up. The problem of respiration reaction is by gill clogging. That is, two sediments get on the gills and clog the gills, they are going to interfere with

exchanges as a separate factor. The actual sediment load abrading the gills could interfere with gaseous exchange. There is also the problem that if there is indeed a metal burden in the area, and the metal is toxic, one of the ways that organism responds to metal toxicity is that they attempt to deal with the metal problem by simply secreting copious quantities of mucus which forms a metalo-muco-precipitate, moving it out of the environment. But what happens often enough is that mucus closes the gills and the organism by a process known as coagulation film anoxia. And what that does is participates in closing the gills and interfering with the gas exchange, and the organisms die that way. Again, what we have is the problem of a variety of actions, all occurring simultaneously which must be dealt with, and as a complex interreaction system and not as site by site or toxic by toxic. In the final statement for the OCS sale 40, volume 2, page 127 to 128, there is an indication thatthe impacts are expected to be temporarily localized and of low severity.

(Continued next page.)

A (Continuing) But there is no real data present of any hard wise which would give us a handle on that. I indicated at length the kind of data that would be needed and it is potentially available because research is going on.

The final document, Vol. 2, on the same page, makes the statement that the near-shore problem -- the near-shore problem and the shelf problem are directly attributed to pipeline burial, particularly with reference to the problems of mud and cutting which are really offshore problems.

What is important to realize in the region of the mid-Atlantic, with the Hudson, Delaware, and even if we sneak in the Chesapeake because fish move in that area, and what is important is the coastal salt marshes and wetlands because fishes as you know use these regions as nursery grounds. So whether they are spawned offshore or in the rivers, at some point they are going to be recruited back to the fisheries, both commercial and sport fisheries. There are impacts through pipeline burial through the nursery and the wetland areas and the magnitude of the impact may be greater than something which is short range and of low severity and only temporary.

In the final OCS volume -- I'm sorry, Vol. 3, page 587, they indicate that the pipe transverses wetlands and other land will result in a width of 50 to 60 feet

disturbance, plus a band of three to forty feet of soil and vegetation removed per pipeline. I assume not per corridor.

This could be a serious disturbance to the ecology of wetlands in a region already stressed by a magnitude of urban development in the area. We have to recognize that both the near-shore environment and the mid-Atlantic region itself is in reality, because of organisms moving through it and water masses moving through it, an interactive dynamic kind of system and really it is unfair to isolate the effects -- there must be an attempt to really integrate all of the activities that are going on with the fact that we have a really stress environment. Not due to the offshore oil problem, but stress because of where it is, with the urbanization and industrialization.

Organisms which are impacted by the offshore situation may be impacted to greater levels because of the particular environment they move to. I cited the hypothetical situation before.

All of this must be dealt with together to make an appropriate impact statement. Without the information on one point you can't do it. You onn't deal with it in isolation.

Q Dr. Rachlin, I hand you Plaintiff's Exhibits 6 and 7 in evidence and I ask you whether you have reviewed

you have to do is generate the kind of predictive studies which are necessary to feed the baseline data into predictive models which will at least give you a first order magnitude appreciation for how the activity as you have the model may affect the information that you feed into it.

Those studies should be completed before operations begin.

Q Dr. Wachlin, let me ask you one or two other questions.

Again, simply from the point of view of possible impact of drill mud and cutting formation waters, pipeline burial, would it be beneficial to delay the decision on production leasing until after exploration has taken place and more information about the environment such as formation water is known?

MR. JENSEN: Objection, your Honor. That question is hypothetical and contains legal assumptions which may or may not be true.

THE COURT: Overruled.

A As I remember the question, it was should the production leases be delayed -- I would answer in the affirmative, yes.

MR. JENSEN: There is no such thing as production leases. It is incomprehensible --

A (Continuing) And I think the statement that a single firing does not prevent recovery seems to me very misleading.

The West Falmouth oil spill was a spill of about 7,000 liters of No. 2 fuel oil, which is a particularly toxic petroleum product which was driven ashore by a strong wind.

The oil became emulsified with the water, mixed in with the bottom sediments, and there was very extensive killing of the organisms in that area where the spill came ashore.

In fact something like 95 or at least over 90 percent of the animals in the area where the oil came ashore were killed.

The extent of the impact is known partly because there were some samples taken within two or three days of the time that the oil came shore. By a week later the evidence of the extreme kill had mostly disappeared as the animals had decomposed and vanished.

The marsh where the oil came ashore was also very severely affected. The marsh grasses, which are the basis for the marsh production, were entirely killed in the area of where the oil itself came ashore.

The oil penetrated quite deep into the

sediments up into a meter down into the sediments.

The organisms on the marsh itself were almost uniformly killed.

And in cases like that of fiddler crabs for example where the animals on the marsh were killed -- what I'm talking about took place as far as fiddler crabs are concerned mostly the following year and subsequent years because at the time of the kill, which was in September, the animals do become negative and were not moving about very much. But in the subsequent year the fiddler crabs which are territorial animals, and when they perceive that the environment next to where they are living is empty, yet otherwise suitable, they move into it, so that the area which had been poisoned by the oil served as a kind of trap for fiddler crabs. It just did not kill the fiddler crabs which were there when the oil came ashore, but by killing those and removing them from competition for space, prompted other crabs from the surrounding area to come in there and be killed. So the area, as I say, acted as a trap.

Dr. Saunders reported that the same sort of activity occurred with respect to the ethic anthropods in the underwater part of the area that was affected by the spill.

But the fiddler crab kill that I just spoke of I am speaking from my own knowledge.

Some other animals which were more resistant, certain shellfish for example, which seem to be among the most resistant animals to that kind of spill, the shellfish on the marsh itself are like mussels, and they survived the spill, and in fact lived for a number of years afterward, although they were severely damaged. They didn't reproduce in subsequent years, at least for two years they didn't reproduce. And we know -- all I had made was a direct observation -- but they looked very watery and thin, and I am certain that they never got fat enough to spawn.

The shellfish in the surrounding area were tainted with the oil. In fact the area was closed to shellfishing. And in fact there was a settlement of $100,000 to the Town of Falmouth to recompense the town for the damage done to the shellfish industry there.

Some of the areas are still closed now in 1976, which is seven years after the oil spill.

We studied a number of aspects of the spill in the marsh. Some of them I have just described. We also looked at the responses of the animals to the oil spill on the marsh.

We looked at the biochemical response of the fiddler crabs and the marsh minnows. The marsh minnows immediately after the spill had taken up considerable

quantities of oil, which was quite clearly No. 2 fuel oil which had been spilled -- but by two years after the spill the minnows had managed to provide themselves with the biochemical mechanisms to get rid ofthe oil from their bodies, so that two years after the spill the hydrocarbon level in minnows was back down to approximately the level it was before the spill, although the hydrocarbons in the minnows, they were still recognizably contaminated with No. 2 fuel oil.

The fiddler crabs showed a very minimal biochemical response. By four years after the spill they still had an ounce of oil in the bodies that was very similar to what they contained immediately after the spill. They were still dying. The biochemical response was such that it would have taken a couple of lifetimes to get rid of the amount of oil that was contained in the body tissues.

We also looked at the composition of the oil over time, that is, the process of recovery from the oil spill as far as compositional change in the sediments are concerned. And it took about four years for the paraffin, the parts of oil which are least toxic and are most readily assimilated and decomposed by micro-organisms to entirely disappear from the spill area.

The aromatic hydrocarbons -- the fuel oil of the

spill contained about 40 percent aromatic. This is the fraction of the hydrocarbons which is most toxic. And it does the most damage to the organisms. The total amount of oil in the surface sediments has not significantly changed in the -- up until last spring, the spring of 1975 -- which is the last sample I have analyzed. If there were amounts in the order of milligrams per gram of petroleum hydrocarbons in the sediment in that first year after the oil spill, and there was still that sort of level present in marsh sediments last summer, because the amount of paraffins were decreasing and there was a relative increase in the amount of aromatics, that is, the most toxic fraction of the oil for a period of about four years. The aromatic fraction has now begun to decrease and the -- well, I won't try to describe what the remaining oil is like.

Q Now, what is the significance of the type of oil that was involved in that spill in relation to the OCS operation?

A Well, as I said, the oil involved in the West Falmouth spill was a particularly toxic oil, particularly toxic because it contained nearly 40 percent of the aromatic fraction, which is the most toxic fraction. We have no idea of what the composition of the oil in the OCS region under discussion will be. Groups have as much

THE COURT: I see. All right. As long as you treat it.

Q Now, with reference to the Mid-Atlantic impact statement do you have any comment regarding the treatment of the impact of oil spills on fisheries?

A They have a table in Vol. 2, page 88 where they list the probable impact of oil spills on fisheries. The highest number in that table is a 7 per cent impact. That is based on the spill trajectory impacting the fishery in question at the time when there areeggs and larvae present.

It seems to me the basis for making the calculation can be attacked on both those grounds. I see no reason to believe that only eggs and larvae will be affected by an oil spill and since the spill trajectory is based on the path the spill itself will take on the surface of the water it doesn't take into effect the hydrocarbons dissolving from the spill into the water underneath and which may go in a different direction than the surface spill itself.

Besides that, on page 83 they admit that there is virtually 100 per cent chance that eggs and larvae of a variety of a recreational and commercial fish species are present and will be affected or may be affected in the lease area itself.

That is a very much higher figure than 7 per cent which is the highest figure that appears on their table.

Q Now, again, with reference to the Mid-Atlantic statement, do you have any comment to make regarding the subject of the treatment of chronic pollution?

A Well, I have mentioned that already.

They admit on page 148 Vol. 2 that chronic sub-lethal effects may be the most important aspect which is what we speak of when we speak of the aromatic content of the discharge formation waters, for example.

Q Has the chronic sub-lethal effect been adequately quantified in the impact statement?

A The chronic sub-lethal effect has not been adequately quantified anywhere.

Q With reference again to the Mid-Atlantic statement do you have any comment with regard to the treatment of the fate of aromatics?

A Vol. 2, page 43, they address the question of aromatic losses.

They cite the work of Smith and McIntyre, for example, to talk about the losses of aromatic hydrocarbons and talk about -- if I remember correctly -- substantial losses in the course of ten days weathering of this toxic aromatic fraction.

They refer to the fact that the losses in the field were greater than the losses in the laboratory where

they studied it with an artificial bubbling experiment.

They do not mention the fact that the same studies which they did cite pointed out that the aromatic fraction that remains in the water contains naphthalene, the most toxic fraction of the oil which dissolves in the water.

There are other studies, one by Frankenfeld in the 1973 conference on prevention and control of oil spills which makes the same point, that the -- of the materials lost from an oil spill by dissolution that is the thing that gets into the water and the ones most abundant are the toxic aromatic fractions.

Q With reference to again, the Mid-Atlantic impact statement, do you have any comment regarding the treatment of effect on bacterial action on spilled oil?

A Well, I point out that they speak of bacterial action. When bacteria had begun to metabolize oil the potential harmful effect of bacteria is gone.

It is true for the paraffins but not necessarily true of the aromatic fractions.

The initial bacterial attack, insertion of oxygen into the molecule makes them more soluble and more toxic and more likely to be taken up by organisms.

Q With reference to both of the impact statements, do you have any comment on treatment of the effect of oil

spills on birds?

A In the programmatic statement, Vol. 2, page 156 where they are speaking of sensitivity of birds to oil spills they talk about -- well, they make an error in that most of the sea birds they are talking about lay only one egg a year and are twice as sensitive as described in the impact statement.

They make no mention of the fact that studies have given some indication that birds seem to accumulate aromatic hydrocarbon in their brain, the accumulation of the most toxic of the oils in the nervous tissue of the brain.

There is little understood of that up to now but it is not mentioned in the impact statement and certainly has the potential of doing much damage to the behavior and probability of survival of the birds.

THE COURT: How do they take it in -- through fish?

THE WITNESS: Through the food --

THE COURT: The food chain?

THE WITNESS: Yes. I am going to speak about that now.

A (Continuing) In the Mid-Atlantic statement, Vol. 2, page 319 and Vol. 2 page 633 they address the problem of food chain magnification and say that this probably does not occur or -- I have forgotten the exact words -- in any case, minimizing the significance.

This is probably a true statement so far as aquatic gill breathing animals are concerned. It is probably not true so far as birds and mammals are concerned.

You understand that the food chain magnification occurs -- if you think of a terrestrial counterpart in the case of DDT -- there is a little bit of DDT in the grain and a dove or pigeon eats the grain and accumulates some DDT, perhaps not enough to harm the dove. Then a falcon feeds on the dove and there is an accumulation as to the second step inthe food chain.

In fact, they have accumulated enough to do damage and there is every reason to believe that that same sort of food chain accumulation would occur as far as birds and mammals in the sea are concerned.

In spite of the fact that they develop mechanisms for detoxifying themselves we can argue, I think, from the example of the accumulation of pesticides and DDT's, that the same thing will happen for the other hydrocarbons we are talking about in this instance.

Q In order that the record may be clear, will you check your reference to Vol. 2, page 653.

A Vol. 3 page 653 I think is what I said.

Q With reference to both of the statements, Dr. Teal, do you have any comment regarding the treatment of the effect of the venting of natural gas?

A It isn't mentioned at all in either impact statement.

There has been a study of the venting of natural gas by Brooks. It is his thesis study of the venting of natural gas in the Louisiana waters.

When there are amounts of gas found along with the oil that are too small to be economically shipped ashore the gas must be separated from the oil to pump the oil ashore.

If there is not enough gas to send ashore they get rid of it at the well. On land it is burned.

At sea, they seem to prefer to vent it under-water presumably so they don't have a constant fire on the platform.

This is allowed by the regulations and in fact they vent considerable quantities of gas in the Louisiana offshore area. I calculated once it was enough to heat all the houses in New York.

The gas, when it is vented, contains small amounts of light liquid hydrocarbons including aromatic fractions and these are then -- because the aromatics are the most water-soluble -- they tend to be dissolved in the water.

Brooks found that this was a factor which had not been considered by -- well, it isn't considered in the impact statement at all.

It is another case in which there is an introduction of the toxic fraction of hydrocarbons into the water in a chronic or continuous fashion.

Q With reference to both of the impact statements do you have any comment regarding the treatment of a potential effect on plankton?

A In the programmatic statement in Vol. 2, page 148 they speak of one part per million as necessary to kill phytoplankton where the plants that go in the sea, the plants are there for the base of the entire food chain.

They say in the Mid-Atlantic statement in Vol. 2, page 126 that in fact production of phytoplankton may be stimulated by amounts of hydrocarbon smaller than those necessary to kill them.

They do not mention the results of the cepex study which is a controlled environmental pollution experiment where they found that 20 parts per billion of an oil extract -- they believe that 20 parts per billion -- it was the 12 parts per billion that the toxic aromatic fraction was having an effect -- well, I'll talk about that -- and that was to change the composition of the plankton in a significant way.

Can I --

Q Would you like to illustrate that for the Court graphically?

THE COURT: Yes.

THE CLERK: Plaintiff's Exhibit 16 for identification.

MR. REDROSSER: Can everybody see it here?

MR. LAFITTE: Push it back a little further.

THE COURT: Mark it in evidence.

THE CLERK: Plaintiff's Exhibit 16 in evidence.

(So marked.)

THE WITNESS: The point I wanted to make is that there were diatoms in the experiment when they began the study. Kinds of phytoplankton. The diatoms were eaten by copepods which live in the water, which is a preferred food of many kinds of fish. And this is a fish which, of course, is the thing in the ocean which interests us.

Now, the point of making this little diagram is that as we go through a food chain of any sort there is a progressively less yield as you go through the various steps, so that if you were talking about growing people and getting the yield at one something, you can say that as an approximation it takes ten units of fish and the tenfold increase at each step, so that a thousand units of the diatoms in order to get one unit of human being.

Now, what happened in this experiment was the

diatom disappeared. Whether they -- whether by being killed or being outcompeted by another kind of algae, which is a microflagellate. Now, microflagellate are very much smaller than diatoms. And, in fact, the copepods which feed by filtering the water can't filter these things out of the water. And there grew a population of -- well, it's a kind of microprotozoa. The protozoa was sufficiently large -- I should draw that bigger, I guess -- to be eaten by the copepods. And so we go through the food chain. Then to the fish and people.

Now, the point is that the upper production of a thousand, we now have a hundred of the microflagellates, small phytoplankton. Ten are protozoa. And we have cut the yield by a factor of ten to human beings.

That deals with the effects of hydrocarbons on the microflagellates. The effect on the phytoplankton they say, in Vol. 2, page 149 of the Programmatic, that from ten to a hundred parts per mile of oil are necessary to affect larva animals, larvae fish, for example.

The larvae of many marine fish are phytoplankton. And they say that on page 152, many species die in response to an application of crude oil that could

conceivably be encountered in the oceans. So presumably they are talking there about ten to one hundred parts per mile.

Anderson has shown working with estarine fishes they are sensitive to twenty parts per million. These are post-larvae fish, adult fishes.

But -- and that criterion may be killed by a small amount as 80 parts per mile, which is considerably less than the amounts that are referred to in the impact statement.

There is one other point I think which is of considerable significance. That is, that the phyto-plankton production in the ocean is very much associated with the patchiness of the population. They are not uniformly distributed. In fact, the population of commercial fish and the commercial fishing is generally supported by only maybe one out of every five years or one out of every ten years production. That is, most of the years the fish production does not succeed in producing a harvestable crop. But once out of five or ten years it is successful. And that supports the fisheries for the next five or ten years.

It's generally believed by marine biologists -- and there is increasing amounts of evidence to support

the idea -- that those successful years depend on the association of larvae fish with patches of food supply. The fish, when they hatch, many commercial marine species have very little in the way of food reserves. That is, if they don't hatch in a place where food is immediately available, they fail to survive.

THE COURT: What do they harvest? That patch over the next five years?

THE WITNESS: No. They harvest that patch over a very short period. It's long enough so that they --

THE COURT: I don't mean the length. I mean human beings.

THE WITNESS: Yes. They harvest the adult fish that grow up from that patch. And it depends on the species that we are talking about for a good many kinds of fishes. It's only that every one to five year -- successful class, they call it, which supports the fisheries.

Now -- so what I have described there is a critical early stage at the time of hatching of a good many fish species.

THE COURT: Does that take place in this area particularly within the species?

THE WITNESS: The statement itself lists -- I've

forgotten now how many, five or six species of commercial importance which lose larvae. And eggs are found in this region, right where the walls are.

THE COURT: What per cent of the total eggs or larvae are found within the area that you are talking about?

THE WITNESS: Because nobody has ever succeeded in following one of these successful year class through from the critical time of hatching, it would be an incredible job. You would have to be there at every time and follow them all to be lucky enough to pick up the one that was going to be successful. So it's impossible to say whether there has been one in this region or there hasn't been one in this region where the successful patch may have been.

THE COURT: Patch would have been as small as this whole area?

THE WITNESS: The patches are of the order of a kilometer or two in size. Based on the -- based on studies done in the Gulf of Maine of the size of patches of phytoplankton, the food patches are of that order of size.

THE COURT: Well, it would be many --

THE WITNESS: A few kilometers across.

THE COURT: That would affect the success of a hatch of a whole species of fish?

THE WITNESS: That's what I am suggesting. That the chance occurrence of a patch of fish, larvae with patches of suitable food, might be one that -- I have no idea. But that's the -- the hypothesis at the present time is that the co-occurrence of the patches of food -- and patches of food are what leads to a successful year class in the fisheries.

THE COURT: You're talking about patches of a few kilometers in size?

THE WITNESS: Nobody knows for certain what kind of patches we are talking about in fish larvae. I am extrapolating from known patch sizes of the food of the phytoplankton production.

THE COURT: We are talking about hundreds and hundreds of miles of fish, aren't we?

THE WITNESS: Yes. But we are talking about the time they hatch out as extremely small animals.

THE COURT: So that just as a small leakage of oil at a critical time could destroy a whole fish hatch--

THE WITNESS: It's entirely possible the patches are about the same size of a large oil spill. Now, if you have a large oil spill that coincided with what would

otherwise be a successful co-occurrence of fish larvae and phytoplankton, it would be entirely possible to -- through several mechanisms the larvae might be inhibited for feeding for a short period, but long enough so that they wouldn't be able to survive. The food -- the nature of the phytoplankton may be changed by the sort of thing that I described so that phytoplankton presence would be unsuitable as fish food. So that the survival of the fish larvae would not take place. You would not get a successful year class.

It isn't something that anyone would ever know about except that you would apparently just have another unsuccessful year.

THE COURT: What are the probabilities -- are these very, very remote possibilities or substantial probabilities that we are talking about? The oil spill itself in terms of time is improbable at any specific place.

THE WITNESS: You would have -- the oil spill is improbable. There isn't any way I can address that question.

THE COURT: You're talking about --

THE WITNESS: The probabilities.

THE COURT: About a probability as a substantial

effect is 1 in 100 million. It's awfully hard for the Secretary of Interior to consider that in major decision-making processes.

THE WITNESS: My point is that it is not addressed in the impact statement. So he doesn't -- it was not even presented to him as something which he might consider, and that we -- but I have to admit that we don't have a very strong basis for assigning a probability of the occurrence.

(continued next page)

THE COURT: Well, is there any indication where they have done a lot of oil drilling in the Gulf of Mexico which had a substantial impact?

THE WITNESS: There was some indication in the North Sea that the composition of phytoplankton had changed over the last decade or so. Now, of course --

THE COURT: That changed --

THE WITNESS: I can't be due to oil drill. It can be due to the --

THE COURT: They started to disappear before the oil wells; is that right?

THE WITNESS: Yes. The North Sea has suffered from pollution of a number of other kinds. That is what I would say is the basis of that statement. It is that it's possible for pollution to affect the composition of the phytoplankton.

THE COURT: I know. But you are dealing with such improbabilities -- the anglss have gone from when? Peru? The history of this is so difficult to pin down in any cause-and-effect manner.

THE WITNESS: That's right, it is.

THE COURT: But the Secretary of the Interior has to make an expedient decision. You can't give us any probabilities. You can't say that it could happen.

THE WITNESS: No, I can't give you any probabilities.

Q Are the probabilities different when one is talking about the oil in the salt marsh?

A As I indicated, there are -- when an oil spill comes ashore, you can be certain it will have nothing. That's what that probability is, 100 per cent. If a toxic type of oil comes ashore, you can be assured that the effect will be large.

Q Now, are there indications that larvae are known to be present in the Mid-Atlantic lease area during the year?

A As I said, the impact statement lists five or six species whose larvae are present. One or the other of them are present throughout the lease area.

Q Is it found that phytoplankton patches are present in the area of the leased area?

A Yes.

Q Would the effect of the co-occurrence of the events you have described with reference to larvae, to phytoplankton patches and oil spills be reflected in the fish catch?

A In the scenario that I have described, yes, it would be affected in the fish catch. It would drastically reduce the fish catch, if it occurs.

Q It would?

A It would, yes.

Q Would that be so even though the cause, the precise cause of the event would not have been known?

A Our knowledge of it wouldn't make any difference.

Q The effect?

A Yes.

Q Are larvae generally more susceptible than adult animals to the effects of hydrocarbons?

A Yes.

Q Now, in your opinion, is the treatment of the effect of hydrocarbon pollution on the marine environment in the two impact statements inadequate?

A Well, from the point of view of a biological oceanographer, I would say it wasn't for the variety of reasons which I have listed.

THE COURT: Well, you have asked the same question essentially as your last witness and it's hard for you to answer the question. These studies are not really designed for biologists. They are designed for administrators. And the subtle points of yours that you're making, are they enough to affect any gross administrative decision-making process? The oil spill and the effects on the salt marshes and on the

seashore are pretty obvious. They are prot

THE WITNESS: Yes.

THE COURT: Are these differences misleading to what a fairly well-informed average non-scientific citizen such as the Secretary of the Interior might --

THE WITNESS: I would say that the way the statement is written in which -- although it speaks of the damaging effects, except in a few instances it tends I believe to minimize -- to put the positive effect from the point of view of making a decision -- the decision that was made and minimizes the potential harmful effects. So --

THE COURT: Would you say that based on your analysis of these statements that they appear to you as a scientist to be deliberately cured in favor of a finding of non-damage?

THE WITNESS: I have no idea if it was done deliberately. I would say that the way the statements are written tend to leave with you the impression that the effect would be minimal. At least the damage effect would be minimal.

THE COURT: Any instance where they indicated more damage than you would have found as a scientist, or are all the errors in the area of less than?

THE WITNESS: I believe they all have been in the area of less damage. I don't know of any instance where they have overstated the effects.

(continued next page)

THE COURT: All right.

MR. ZEDROSSER: May I proceed?

THE COURT: Yes.

BY MR. ZEDROSSER:

Q Incidentally, Dr. Teal, this statement was circulated to a number of the public for the purpose of allowing him to review and see what was going on in offshore oil drilling. Would this tell him very much about the dangers from hydrocarbon pollution?

A I would make a similar statement. I think it tends to minimize the harmful effects.

Q At this point I hand you Plaintiff's Exhibits 6 and 7 in evidence and ask you whether you have reviewed these documents?

A Yes. I read both of them.

Q What are those documents?

A Program Decision Option documents.

Q Are they one of the national program --

A One for the Programmatic accelerated lease and one for the area 40.

Q Do you have any comment on the treatment of the subject of the effect of hydrocarbon pollution in those documents?

A It would seem to be -- from the point of view

of the marine biologist the effects of hydrocarbons were so glossed over as to be relatively worthless.

Q Now, from the point of view of effect of hydrocarbons on the marine environment, what is your opinion regarding the advisability of a decision to adopt a national program to hold a Mid-Atlantic lease sale?

A Well, I would -- as a marine biologist it seems to me that there are numbers of uncertainties which are themselves alarming, and from my point of view it would be a reason for going slow on OCS activities rather than accelerating. It seems to me foolish to rush into actions whose consequences we do not understand very well.

Q Is your opinion affected by what we do know as well as what we do not know?

A Yes. We know that the impact statements themselves state that oil spills will occur. That oil spills will come ashore. That there will be damage to coastal systems, which are the most productive ones we have in the sea. And I believe there is reason for being concerned about the potential damage to pelagic systems in the same area.

As a marine biologist I can see that nothing but advantage would come from delay of the program to give us more time to work out the uncertainties.

Q Specifically to that point, and again simply

from the point of view of the effects of hydrocarbons on marine environment, would it be beneficial to delay the decision on production until after exploration had revealed further information about the marine environment?

MR. HYMAN: Your Honor, may I have a continuous objection to this line of questioning. There is no provision in law, by statute of Congress, or anybody else to separate exploration from the document. And until such law is passed this is pure speculation.

THE COURT: Overruled.

A It would seem to me particularly advantageous in at least one regard after exploration has occurred, we would know what sort of -- we would know if there was any oil there. And after there is any oil and gas there we would know what sort of oil and gas we were dealing with.

Q Now, again from the point of view of the effect of hydrocarbons on marine environment, would it be beneficial to include in those provisions a termination clause under which a lease could be terminated if it was discovered that there were in fact environmental effects from hydrocarbons on the marine environment?

MR. HYMAN: A continuing objection to this line of questioning. He is not a Congressman. He is not the President. He did not formulate the statute. He

A On-shore impact, sir, really is very complicated and difficult to disentangle, but --

Q Please speak up.

A But we can think of them as being four types. There are facilities which -- on-shore facilities which are required in order to support the off-shore development and to utilize its products. There are side effects. There are the side effects of those facilities. There are also other effects which could be classified as synergistic effects which may or may not be related to the facilities, but occur at the same time as the facility is in place. And there is the final class which you could call cumulative effects which are manifest over a period of time as a development -- the expiration, production and development occurs.

Q Doctor, let's start, then, with the facilities - if that is what you named for us -- what facility would be called for by exploration? What on-shore facility would be called for by exploration under this lease?

A There would be a group of facilities which would include on-shore support basis. These would include docking and loading facilities within them, storage, warehousing, office areas. These would be supportive of the ships that are necessary and also the helicopters which are necessary to supply the off-shore exploration.

There would be road and rail access to these facilities. Those would include another class of facilities. Helipads and airports would be the main types of facilities during the exploration phase of this process.

Q What facilities would be called for by development and production?

A The list is somewhat longer. There would be pipelines, both oil and gas pipelines, both on-shore and off-shore. Pipeline terminals, storag e tanks both for oil and for gas, pumping and compressor facilities associated with the pipelines. Gas processing plants. Positioning heads for off-shore investigation in order to locate them and in the correct position for their work. Pipe coating plants. Platform yards. Platform construction yards, and yards for constructing modules or portions of the platforms. Specific service facilities such as fire fighting facilities, medical facilities, training schools for people associated with the off-shore development and its on-shore impact. Refineries. Petroleum chemical plants.

There are other varieties, but I think those would be sufficient to give the main idea.

Q Generally, just before we get into the specifics of those, what kind of effect generally do these facilities produce?

A Well, among the side effects we might include the ancillary and subsidiary industries which would grow up around these major facilities such as platform yards. There would be, of course, side effects of more people in the area, more jobs. But also perhaps labor shortages under certain circumstances. Demand for land. Demand for housing, roads, schools, stores, recreational facilities, police, fire, emergency services. Demands on utilities for gas and electricity, water supply, sewers, sanitation, waste disposal.

There would also be crowding, traffic on the roads. Probably there would be pollution associated with these facilities. Water pollution, air pollution which would have effects on plants and property and human health. Noise pollution. Solid waste pollution problems. Those would be the major problems of direct side effects.

Q What are the consequences to a community or to a region if the strike that is made -- let's assume there will be a strike and it would be very large.

A Well, these facilities would be in place for very long periods of time. They would make permanent changes in the region. Also, the likelihood would be that on-shore planning capability would be overwhelmed if there is a large strike, especially in a short period of time.

Q We will come to that in a minute.

million, you said?

Now, how quickly could a strike follow the lease sale if it were held on August 17th?

MR. HYMAN: Objection. There is no foundation that this witness is an expert geologist. An expert in geology. Nor did he testify on oil exploration or anything. It's all speculative. It could be his opinion that it will happen the next day, or that it could happen in thirty years, or that it could never happen.

MR. KAUFMAN: All I asked is how soon can it be that the --

MR. HYMAN: As soon as they put the drill in and hit it. But how many dry holes are they going to hit?

MR. KAUFMAN: Excuse me. If you were to --

THE COURT: Excuse me. Don't address counsel. Address me.

MR. KAUFMAN: Yes.

THE COURT: Overruled. He is telling us what his hypothesis is based on for his expert opinion. You can attack him if you wish.

Q How quickly could a strike happen following the lease sale if it took place after August 17th?

A It could be within a year.

Q How quickly could development follow a big strike?

A Well, development begins -- some forms of development begin as soon as the strike occurs. And the planning for that development begins immediately.

Q What kind of things happen?

A Well, people begin to decide where precisely they are going to bring the oil ashore, and how and what facilities will be needed on shore to accommodate the oil and how it will be used subsequently. And the gas, of course, too, decisions are made.

Q Like what?

A Such as land acquisition perhaps begin to be undertaken by interested parties in advance of the emplacement of the facilities. Industry starts to look at the possibilities for expanding the business and development in the region based upon the strike. Managers -- land managers and others responsible for programs to guide this development begin to evaluate the accuracy and adequacy of those programs. Some industries may stockpile supplies in anticipation of large demands, unexpected demands.

Q On what scale does that come?

A It can come -- it can be widely dispersed

throughout the area and in large quantities. And in individual places within the year. It becomes a variety of points on a large scale.

Q Can you describe what the consequences of that kind of genogistic effect can be or would be?

A Well, there are bits -- it's like a pressure cooker effect, as far as the planners are concerned. They are subject to a multiplicity of demands from different directions, many of which they have no documentation of, and they are not even aware of, and they have no time to respond to put in place the necessary programs to control those kinds of developments.

Q Well, can you tell us what the Scottish experience was with respect --

THE COURT: Excuse me. You must speak up. The acoustics are not good.

THE WITNESS: I am sorry.

MR. LAFITTE: Just a little louder, please.

MR. KAUFMAN: Excuse me. Is the mike working?

THE COURT: No. I am sorry. It's out of order.

THE WITNESS: Okay. The Scottish experience -- well, the main aspects of the Scottish experience were that land use managers and environmental management

was overwhelmed at all levels, particularly so at the local municipal planning levels, but also at the regional level, and even at the national level in Scotland.

In addition to that, there was a predominance of industrial siting criteria for businesses rather than planned locations of businesses.

The industrial criteria for locations of businesses tended to dominate. And plans which had been laid down to accommodate the development were found to be totally inadequate. The development occurred along the coast rather than dispersed throughout the region as was the intent of the planners in the Northeast Region of Scotland. There were other effects created in their economy whereby people in relatively well-off -- high-paying jobs began to take even higher-paying jobs within the oil industry. And people down the economic ladder began to take those vacated jobs and eventually there were left with a class of rather low-paying jobs at the bottom which nobody took. And labor shortages developed.

A number of wrong decisions were made because they were taken very hastily. The Government committed land to accommodate the platform yards,

construction yards and other facilities which subsequently were unused and they were left with really white elephants on their hands. They committed far too much land. In other cases, companies engaged in developing the oil resources or productivity made overtures to local communities in Scotland saying, we are going to come in. The local communities set in motion the plans necessary to acquire the land and provide the infrastructure. And the companies subsequently because of changes in the amount of oil and gas being discovered offshore and other factors decided not to locate in those communities and move elsewhere. There are a large number of conflicts growing up because of poor planning situations.

You can find many examples where facilities were proposed in one area first and after public hearings or royal commissions were set up to inquire into these matters, they were moved elsewhere. And virtually, if you look at the major facilities in Scotland for the platform yards and for the gas processing plant, you find two lists, the ones that were -- you find two lists of major facilities like platform yards and gas processing plants. Those that were proposed initially, and because of the

conflict as developed either in the public hearings or outside were rejected. And then the list that was adopted. And these are sort of dual concepts to the location. So in general it was the excessive dislocation and both the planning structure of the lives of the people in the area -- and there was even some degree of regional migration, housing shortage, crowding of anchorages in the harbor. Under facilities such as the airports which weren't capable of handling the number of flights that were required into Northeast Scotland, and Shetland in particular. And people standing on the runways with their baggage in the rain waiting to get aboard planes because there wasn't anywhere for them to go inside the existing facilities. Housing shortages estimated to be about 30,000 houses in Aberdeen, one community in particular, which has a population of 200,000. Impossible to get hotel rooms without reservations up to a year in advance. Communities becoming centers for international conferences, bringing people on direct flights which became irregular from Houston or from Amsterdam, the center of the international oil and gas industry, coming into the area. Increases in crime. As workers in the facilities -- generally

male workers in some facilities off and on, and marriages began to -- they had no experience with this kind of worker. Circumstances were even that the whole police force of small communities deserted their posts and went to work for oil companies instead.

So overall disruption was rife for a period which was continuous since 1970 and is still undergoing to the present time.

Q Dr. Mitchell, is this matter, the problem of timing of the development and its consequences made clear in the impact statement?

A No, it is not.

Q Is it discussed in the PDOD?

A No, it is not.

(continued next page)

Q Can you come to any conclusions about the way timing to put planning facilities into place was handled?

A Well, it was largely ignored.

Q What's your conclusion with respect to its having been ignored?

A I think it's a key factor in the overall assessment of the -- I think it's, it's perhaps one of the keys to the adequacy of the impact statement.

MR. LIKE: Excuse me. I didn't hear the question and answer. Would you please speak up?

MR. KAUFMAN: Would you read back the question? Never mind.

THE COURT: The question was, have you come to any conclusions about the way it was handled. What are the conclusions and what should have been done? This matter of the way timing, the way they put planning facilities into place.

MR. KAUFMAN: Yes. The proposed timing he was just discussing.

THE WITNESS: I said that it was largely ignored in the impact statement.

Q Now, -- and I wanted to know, what is your conclusion as to what should have been done with the impact statement?

A The impact statement should have indicated the scale of the impacts expected, their relatively compressed beef period, in which large impact can occur. The extent to which in some specific locations throughout the region might be affected.

Q Now, Dr. Mitchell, let's go for a moment to land use impact. What does the Mid-Atlantic Final Environmental Statement say about land use acreages?

A It says that there would be one 160 to 645 acres, I believe, or 640 acres, I am sorry, of land would be required to accommodate the on-shore.

Q 645 acres they said was if there's a big strike; is that correct?

A That's the implication.

Q Will you mark on this board over here just a notation that says "impact statement 645 acres"?

(Whereupon, the witness left the stand and proceeded to mark the chart.)

THE COURT: Can you all see that?

Q In large capital letters.

THE COURT: I think this is better to put it over here (indicating), where we had it last time.

MR. KAUFMAN: He is going to be writing on it as he testifies from time to time.

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THE COURT: All right.

MR. KAUFMAN: Can you see it?

THE COURT: Yes. I can see it.

THE CLERK: Sheet marked as Plaintiff's Exhibit 20.

(So marked.)

Q Dr. Mitchell, you gave us a list of some of these on-shore impact statements, and I -- just to have a logical sequence, we are going to have to deal with that in getting to the oil, and coming back after you have gotten the oil. In that sequence, and the first item is a platform you are on. What is a platform?

A It's like a structure which is usually composed of steel, in some instances concrete, which is placed offshore to coordinate the release of oil and gas, and to pump it into pipelines or to ship to shore.

Q Are they referred to in the impact statement?

A Yes.

Q Do you know what the impact statement -- the technical paper says. One says about how many of them there will be?

A Technical paper says 44 on page 44, conveniently. The impact statement also gives a range, but also indicates the float for the bases which they're going to make their

judgment.

Q How big is a platform?

A It's very -- it can be very large. It usually is very large. Platforms that would be constructed for Middle Atlantic Region, would have to operate in waters from 300 feet deep to 600 feet approximately, in depth. So they would have to have at least those depths for underwater height, plus an additional 100 to 150 on top of that. So, in the deeper waters you might be sinking something under the terms of the Pan Am Building, standing in the waters. They would be during construction of the steel platforms and are constructed on their side, but they're visible for many miles away. If there are no obstructions, you can see them ten or fifteenmiles away.

MR. LIKE: I can't hear the witness.

THE WITNESS: Steel platforms constructed on side, and visible for long distances. If there are no obstructions they may, when lying on their side, because they're tapered, the base can be 250 to 350 feet in elevation, which causes problems for low-flying aircraft in the vicinity of the construction site.

Q What are they made of?

A Usually of -- the platform comes in two ways:

concrete and steel, but the concrete platforms, I think we can leave out. They are unlikely to be constructed, because they required very -- they are usually deep water structures.

Q Are platforms mass-produced?

A No. They are for the purpose built. They can't be mass-produced. They have to be designed for the site that they are going to remove the oil and gas from in a geological structure, and the meteorological structures in that vicinity; they are very much purposeful in the vicinity.

Q Are they plentiful now? Can you get them tomorrow?

A No.

MR. HYMAN: Objection, your Honor. That is a relative question. "Are they plentiful?" I mean, we are not talking about a harvest here. Does he know that are available for the Mid-Atlantic? It's a range -- I know, cross-examination, but --

(Whereupon, Mr. Hyman resumed his seat.)

Q Do you know of any?

A I don't know of any that are available for the Mid-Atlantic, simply because no find has been made at the present time. And, you can't know until the strike is made what platforms you require. I can't answer that directly, but there are a shortage of platforms in the sense

that major facilities for building those platforms in the United States, which are on the Gulf Coast, have according to the Oil and Gas Journal, which is an industry publication, have a backlog of orders, in some cases into the early 1980's. So that they're not available to build very great expansions of these facilities. They aren't available to build such platforms.

Q Where does one make a platform?

A One makes a platform on a site adjacent to the current, where it can be easily floated out to the point nearest where it's going to be preferable.

Q What do they call the place where this takes place?

A A platform construction yard.

Q Now, is there a likelihood of one or more such yards coming to the Mid-Atlantic Region?

A Yes.

Q Can you give me your reasoning why you believe one or more of these yards is going to come to this region?

A First, I think there is one there on the way to the Northhampton County in Virginia which has already purchased a site, and moved forward to the construction of the platform construction yard.

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Q How big is that site?

A 2000 acres. There is also the fact of the backlog, which means that there isn't really a great deal of slack in the platform supply system at the moment in the Gulf Coast yards, and that, I think, is given additional weight by the fact that Brown and Root is building another platform yard on the West Coast of the United States at Astoria in Oregon, and Kaiser Steel is searching for a platform construction site on the West Coast. The number of platforms that would be needed, 44 would seem to indicate that there wouldn't be much prospect of the Gulf, with this backlog, being able to supply these additional platforms. The Library of Congress study for Representative Murphy indicates that the Brown & Root development not directly says there may well be a platform construction yard there on the East Coast. I think the affidavit submitted by one of the people associated with the case, Charles Matthews from the National Ocean Industries Association, indicates he thinks very clearly that Brown & Root are going ahead with their building of platforms. I think there's every likelihood that some will come.

(continued next page)

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BY MR. KAUFMAN:

Q Does the yard have any location parities?

A Preferrably it should be located inan area where the soil is capable of bearing the heavy weight of the platforms where there is a navigable waterway adjacent, usually with a channel about 30 feet deep, through which the platform can be taken out to sea. It usually has to have a frontage of 1,000 to 1,500 feet, because usually, in building a parallel waterway, you cannot find waterways that are wide enough, so they move it parallel. So, there has to be extensive frontage. There has to be the air clearance, because of the height of the platform lying on its side, it preferrably should have low water tables so that the soil has sufficient bearing strength to hold up this load, but very frequently dredging is required to provide access slips, sometimes to wet lines. So, those are the platforms that the construction yard might have.

Q Would you try to raise your voice a little. I am getting some feedback that you need to talk a little bit louder.

Where is that sight that Brown & Root has acquired?

A It's in Northhampton County, Virginia, at Cape Charles.

Q Where is that? Can you describe it briefly as to its approximate location?

A It's near the southern tip of the Delmar, Virginia peninsula. That is the Delaware, Maryland, Virginia peninsula. It's in a rather remote setting, which is difficult to get at, in a low population area, about 14,000 people, including people that live in the county. It's very rural and is big on agriculture and fishing. It's not heavily tourist oriented.

Q Is it across Chesepeake Bay?

A Yes, it is.

Q What's the nearest big city, offhand?

A Norfolk, Newport News; that complex of cities.

Q On land, what is the nearest city?

A Probably Delaware, Maryland.

Q How far is that?

A I haven't measured it, but it's on the order, probably of a couple of hundred miles, I would think. I will have to look it up.

Q You testified briefly, and I would like to see if we can make it clear.

What is the effect that the yard will have on the coastal waters where it goes in. Does it have to be dredged? What happens if they have to dredge it.

A Clearly, they are going to remove a substantial portion in that area of wet land, with contamination for the water released by sediment, and probably interrupting the drainage system in the wetland.

Q How many employees does a yard like that generate?

A Between 3,000 to three and a half thousand employees.

Q Over a time period, assuming when they put it in work for a while, over a time period, that's what it does?

A Yes. But the employment fluctuates according to the demand for platforms. I can bounce up and down quite a ways.

Q What was the Scottish experience with respect to this?

A The Scottish experience is that it bounces around, that it can go up, employment can go up to levels on the order of 3,000 people over a period of perhaps three years, in the need for the facility, which is highland fabricators, which is J. Edgar MacDermott. That was the pattern there.

Q Now, the synergistic industries grow up around the yard.

A Yes. Other industries can grow up around the

yard, if, for example, it's necessary to build flotation colors. These are steel structures which floated devices attached to them, which are put around the platform when it's towed out to sea, and then they're flooded gradually to allow the platform to sink into a position, and then they anchor it into position. Well, the flotation colors, if those are what are used, are barges which are additional service to the industry. If flotation colors are used, because of the stresses in the steel associated with carrying these heavy weights, they are usually used only once or twice, so that's an on-going industry. As long as you make more platforms, you usually have to make more flotation colors, and there would be dock facilities for -- probably for the tugs and the barges, and the anchor ships which would be required to hold the platform position as it's being in place. There might even be a steel making or steel rolling mill. That's another possibility from the Scottish experience, although I think probably in the United States that's probably less likely, given the adjacency of steel making.

Q About how many jobs would you say that whole kind of complex would create, just directly, in the making and servicing of the yard itself. You said 3,000.

A Probably 500 jobs or so would be added in the

industries, and we would have three or three and a half thousand in the yard. So we'd get maybe 4,000 jobs on that basis.

Q What are the effects that the existance of the yard can create?

A Well --

Q What are the others?

A In the case of location like Northampton County it would be necessary to build a complete new town to accommodate the people who would be employed at the yard, and their families and various services, the normal range of services that any town would possess, plus the services for the construction of platforms that would involve all of the investments that are necessary to put down a new town, in streets, utilities, in sewerage, disposal systems.

Q Have you --

MR. HYMAN: Your Honor, I hate to interrupt the expert, but I don't see what relevancy or what standing it's -- what's going to happen in Virginia, why New York is concerned about it. They are interested in the impact on North Shore of Long Island, and now they are wondering to the great boom of Virginia where 4,000 unemployed people are going to get jobs. I don't understand what the relevancy is

as to a possible impact on Long Island, on the shores of Long Island.

MR. KAUFMAN: If your Honor pleases --

MR. HYMAN: They don't represent the State of Virginia.

THE COURT: I will allow it.

MR. KAUFMAN: Not the State of New York, and the national resource defense counselhas a very great interest in what is going on.

MR. HYMAN: You mean you want to take jobs away from people?

MR. KAUFMAN: Counsel, if you want to testify --

THE COURT: Excuse me. I don't want counsel to address each other, please.

Q Now, we were talking about the number of jobs. First you said about 4,000 would be in direct employment in the yard, and subsidiary industries around. Now, about how many jobs would or do you calculate grow up around the fact that there is the existence of this yard?

A Depends really on whose multiplier you use. The British generally assume that there is a multiplier of two for every job created directly to the building of the platform. There is another job created in association with it. If you use the environmental impact statement multiplier

which is 4.3, you end up getting a considerably larger number of indirectly created jobs.

Q Which one do you prefer to use?

A Let's use the multiplier of two for the moment, and assume that it may be greater.

Q So now you are talking about having 4,000 jobs, plus 4,000 jobs created around the area?

A Yes.

Q Families connected to all of these people coming into an area like the Cape Charles Peninsula. How many people then are you putting down into Cape Charles Peninsula to service or take their living from the yard and its subsidiaries?

A Probably in the order of 15 to 20,000 people.

(Continued next page.)

Q Now, assuming there is this yard, you testified before that if there is a big strike there will be long employment. If there is a big strike they will be employed for a long time?

A Yes.

Q What are the consequences if the strike isn't too big?

A Well, the yard will go out of business, and the people who depend upon it for employment will be left without jobs and be forced to migrate elsewhere or make some other provisions for their livelihood.

Q Would it be possible -- by the way, if there's a very large strike, let's say one in the Mid-Atlantic, and another in the North Atlantic, would there be more than one yard?

A Quite possibly.

Q With respect to this particular yard or you now assume, take the one yard for a minute. Are there timing considerations that will affect the platform yard because of the location of the drill, because the fact that it's in the North Atlantic particularly. Are there any time considerations?

A Well, in that you referred to the North Atlantic as opposed to the Mid-Atlantic?

Q Excuse me. The Mid-Atlantic. Are the facts out here in the Mid-Atlantic as opposed to the Gulf, are there time considerations that affect the yard?

A What kind of timing considerations?

Q Well, are they able to install them on a regular basis?

A No.

Q Or do they have any kind of problems with them?

A No, no. They have to wait until the strike is made until they know the number of platforms that are necessary.

Q Assuming -- excuse me. Maybe I am not making myself clear. Assuming there is a strike, there is going to be a yard, and it's going to be working there, are there time considerations with respect to how the yard builds the platforms, because of the fact that you are in the Atlantic as opposed to the Gulf?

A Yes. These are probably more significant in relation to other facilities like pipelines, but there are time considerations in the sense that the Atlantic is a much rougher ocean; meteorological conditions are much more extreme than the Gulf, and therefore the platforms have to be built so that they can be floated out down calm weather, which is generally the summer months, and possibly October or

November, not out of season, and therefore, the labor that's necessary to build those platforms will peak in the periods directly in front of that season in order to make sure they get out. Otherwise, it's likely they will be delayed.

Q So there has to be a storage facility, as well?

A Yes.

Q Now, you testified a few minutes ago that the creation of this yard might altogether generate a new town of about fifteen to twenty thousand people; is that right?

A Yes.

Q Can you tell me about how much space they would take up? The creation of a new town of about 20,000 people, can you give me any kind of an estimate as to how much land use that would occupy?

MR. HYMAN: Your Honor --

THE WITNESS: 6,000 acres.

MR. HYMAN: Your Honor, I would like to have more qualified statements as to the land use. They can put in one building on one acre like we do in New York City or what zoning is he talking about, and what kind of community does he envision? Just this wild thing, I can put him in an acre and a half. I would like to know how he is going to do it and what the plans are.

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THE COURT: Overruled.

Q And that's based on the multiplier of two. Now, can you give me some idea what the number is if you are talking about the multipliers?

THE COURT: Let's move ahead, shall we? Let's get to what he knows about.

Q Would you put down somewhere on this chart, roughly, the number of acres tha a new town and the platform yard takes?

A 2,000 for the platform yard, based on Brown & Root. Northhampton County, and let us say 6,000 for a new town. 6,000 acres on the basis that not only are houses required, but streets which are normally 60 per cent of the area of the town, and the zoning density in areas like Northhampton County, unless it was very drastically altered, would result in a fairly low type of town. They are spreading out the number of acres.

Q Are these physically sociologic or detailed or dealt with with the Programmatics or in the final Mid-Atlantic impact statement?

A No.

Q Are theymentioned in the PDOD?

A No.

Q Are the planning problems that had to do with the development of a new town of this kind mentioned in the

A 323

PDOD or in the impact statement?

A No.

Q Is there any discussion in either environmental statement how to mitigate the new town just being created?

A No.

Q Any discussion about the water flow in a population of 20,000 in the impact statement?

A No.

Q Would any of this information about which you have testified have been available to the Secretary of the Department, had he cared to look for it?

A Yes.

Q Now, let's go on to another one.

Are there any other land use impacts which would take place at the same time the yard is getting started? Can you tell me what they are? You mentioned a number of the land acquisitions and things like that.

A There would be.

Q Go on. After the land use, what was the -- remember we were going out to sea and back. What would be the next big land facility?

A Probably a pipe coating facility. Pipe coating plant.

Q Why is pipe coated?

A For varying reasons. It's coated to protect it. It is usually where a jacket, an asphalt jacket on top of this a coating of concrete, which is usually two and a half inches thick. It protects it from corroson on the sea floor. It is used partly to insulate the pipe against temperature differences, and partly to give it weight so it stays on the bottom of the ocean.

THE COURT: Excuse me. We are going to have to break for a few minutes. I see the GSA men out there, and they have come to fix the loudspeaker system.

We will take a five-minute break.

(Whereupon, a short recess was taken.)

(continued next page)

(After recess.)

J A M E S K. M I T C H E L L, having been previously duly sworn, took the stand and testified further as follows:

DIRECT EXAMINATION

BY MR. KAUFMANN CONTINUED:

MR. KAUFMANN: Is that mike w rking now?

THE WITNESS: Yes, it is.

Q There was one statement you made a few minutes ago that you mentioned to me during the break that you might want to correct what you said that sixty per cent of the spacing in a new town gets taken up by automobiles.

You want to correct that?

A Yes, sixty per cent of the housing is what I meant at the time, and the twenty per cent would be roads. I have my fractions revrsed and percentages reversed.

Q I show you a Tech paper number one, and I draw your attention to page 201, where it mentions Impacts on Urban Affairs, Coastal Virginia. Would you read that one little section

A The last sentence says:

"The effects of Baltimore canyon activity on Virginia are minimal..."

Q Do you have any comments to make on that?

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A I think that is at the least a gross understatement. In fact the effects are likely to be very significant.

Q Do you have an opinion of what that kind of statement does to the effectiveness of the information in Tech paper number one?

A I think that it throws some serious doubts upon the accuracy of the information that went to the model of the assumptions and therefore into the conclusions of the model which is the basis for the analysis of economic impacts used in the formal impact statement itself.

Q You mentioned before the break type coding plants?

A Yes.

Q And I guess I was just asking you how many type coding plants will be needed if there is a substantial amount of oil?

A It depends on how much oil is found at what time. The time sequence is significant. If large amounts of oil were found quickly then there would be a need for more than one pipe coating plant.

If small amounts are found then fewer pipelines will be built.

I can't say much about distance of the pipelines

until we can tell what the find is. But fewer pipelines would be built and therefore probably one pipe coating plant would be necessary under the circumstances. But it depends upon how much oil is found and when it is found.

Q Based upon the impact statement and what their comments were about pipelines, do you have any idea of how many miles of pipeline will be necessary based on the information of the impact statement?

A How many miles of pipeline?

Q Will be necessary?

A I believe the figure is approximately 800 miles of pipe and 300 miles of pipeline corridor, that is the corridor for the pipe on shore, the corridor for both the oil and gas.

Q Is there a gathering pipe, as well?

A It is not included in the impact statement. Gathering pipes are pipes that lead the oil or gas from the individual wells to the platform itself, where they are consolidated.

Q Excuse me. Does that have to be coated?

A I believe so, yes.

Q About how much altogether do you have? About how many miles of pipe are going to have to be coated?

A Well, in this instance if there are 44 platforms

and the standard which is used for gathering lines, which is ten miles of gathering line maximum to a platform, that means that there are 440 miles of gathering lines plus the miles that are needed to bring the oil in the transmission pipes onshore, from on shore to the refineries, because they do coat the onshore pipes as well as the offshore pipes, although the coating required by the onshore pipe is much less.

Q When does a pipe coated line go into place?

A As quickly as you can have it after making the strike.

Q Where does the pipe coating plant have to go?

A It has to again have water access, access to navigable water. It preferably should go as near as possible to the expected landfall site for the pipelenes, although that is not always the case. On some occasions an interim storage area is developed at the landfall site and pipe is shipped from the pipe coating plant to that storage area and then taken on barges to be laid from platforms offshore. But it should go as near as possible to the anticipated landfall --

Q How much space does a pipe coating plant take up?

A A hundred acres, approximately.

Q Would you make that as a notation of the number of acres to be required?

(Witness marks document.)

Q Does a pipe coating plant employ skilled labor?

A Semi-skilled labor, usually. But they have to have some minimal traning.

Q Is it a stable business?

A It's a fluctuating business depending on whether the oil field is thought to be sufficiently large to warrant construction of a pipeline. If it is a small field it could be tankered ashore. And depending on the number of lines again and the sequence in which they come in -- it does fluctuate considerably. The amount of supplies that are needed coming in to the pipe coating plant. Those supplies of concrete aggregate also fluctuate. That can vary from fifty to three hundred tons a day for materials. Of course, there would be need for some facility to supply that sand and gravel or the aggregate materials in the vicinity. So there would be those additional demands.

Q What other consequences of this type of fluctuating employment?

A Again you tend to have a higher labor turnover associated with many of the onshore facilities, pipe coating plants being one such. Sometimes minimal parts are required. In fact, on some occasions the whole plant can be closed down for a period of time, which is the case of one of the two plants in Scotland, now, because it doesn't have any orders.

But it is expected to come back on line.

Q What are the consequences to the community as a result of that?

A People are without jobs for some period of time. Again, they must migrate and must use their savings, or must make some other provision.

Q You said before there were some other kinds of pressures on the platform because of the seasonal difficulty of the weather out there in the Atlantic. Are there any particular kinds of pressures on the pipe coating line business in the mid-Atlantic region --

A Yes, there are. The pipe lines should be completed and should be in place whenever the production platform is ready to pump the oil onshore. And in fact in special situation number four there is a requirement that oil should be piped ashore, a platform where it is technologically and economically feasible.

I think it is an added pressure to get that pipeline completed. And again, it is an activity which is susceptible to fluctiations in the weather that generally can take place in the North Atlantic during certain seasons. So there is pressure to get the construction done before the bad weather arrives.

Q What would happen if the explorers were to hit

oil at both ends of the Baltimore Canyon area at about the same time?

A It is most likely that pipelines would be required onshore for both areas. The distance onshore is on the order, I think, of between 47 to 90-some-odd miles. I'm afraid I don't know the exact number. So unless the two plants were close together, it would make more sense laying a pipeline at one million dollars per mile offshore, to run two pipelines --

Q What kind of pressure would it put upon pipe coating plants?

A That would possibly create the need for additional facilities, but at least it would allow for the expansion of the existing facility.

Q What are the side effects of the coating plants? Does it create any pollution?

A The pipe coating plant?

Q Yes.

A Dust is the most common form of pollution from the concrete.

Q Does it use water?

A Yes. It uses three thousand gallons a day. It is the typical figure.

Q Is there in the impact statement any place where

reference is made to the pipe coating plant?

A No.

Q Is it probable that a pipe coating plant would be needed on the Atlantic if a strike is made?

A There is a mention in there about covering for a pipe coating plant but no mention of the pipe coating plant.

Q I asked you was there anyplace in the impact statement where any reference was made and you gave me that one reference.

Is it probable that a pipe coating plant is going to be required in the mid-Atlantic area?

A Yes, definitely.

Q The field pipe comes from where? Do you know?

A Well, there is a plant in -- the sales plant in Pennsylvania outside of Philadelphia, about seventy miles or so from the nearest mid-Atlantic shore, and most probably steel pipe would be shipped in from that plant. It could be fabricated onshore but I do not see any reason for it.

Q Well, would it make any sense, for example, to snip a pipe from Pennsylvania out of the region for the purpose of coating it and then bringing it back?

A No.

Q Is there anything about a pipe coating plant in the impact statement -- excuse me -- in the PDOD?

A No.

Q Is the information available about pipe coating plants to anybody who is looking for it?

A Yes.

Q Could it be available to the Secretary or the Department of the Interior?

A Yes.

Q Now, you mentioned a position base or positioning base. What is a position base?

A It is probably not an accurate name for what they are. But I don't really know a good name. They are installations which include radar, telemetry equipment, radio transmission towers. They are located usually on high ground with a clear line of sight offshore.

They are designed to permit vessels operating offshore to get a precise fix on their location which is not available to them, so that they can either drill at a point where the exploration indicates oil may be available or come back to a point where a well is already being drilled and exploration will turn it into a producing well. Also, they are used for locating onshore structures precisely.

Q Have you ever seen one?

A I have seen two. I believe there are three in Scotland, but I haven't seen the third. There is one at

Mormond Hill which is visible for many miles -- I didn't measure the distance, but on the order of fiteen miles, perhaps, so you can see it sitting on the top of the hilltop. It is very noticible.

Q How big is it?

A Again, I didn't measure the facility, but judging from the size of the hilltop, it is perhaps five or ten acres and has a buffer strip on the outside --

Q Would you tehen mark down here -- could you give me an idea of how many of these you think are needed if they find oil in the Atlantic?

A I think perhaps three.

(continued next page.)

Q Can you give me an idea then of what the total acreage would be?

A I think an approximate estimate, since I haven't measured it, would be 20 acres we will say.

Q Are there any particular difficulties associated with their location?

A If you were to put them in the middle Atlantic, yes, there would be difficulties, for example, it would be likely thatthey would choose again high ground with as clear a line of sight offshore as could be found. For example, the Atlantic Highlands in New Jersey are of the order of 200 feet elevation, the highest ground south of Maine down to the Mexican border -- would be -- including one place where they might well locate.

However New Jersey has legislation, the CAFRA, Coastal Area Facilities Review Act, which in connection with CAFRA, there were a number of hearings where CAFRA -- where the State of New Jersey has ruled against the placement of visible structures on the skyline. And one of the stimuli for this concern for visible structures was one such on top of the Atlantic highlands. It is very unlikely that it would be permitted there. And they would have to seek a location elsewhere. An alternative place might well be in the upper elevations of land in the south part of New Jersey,

in the Pine Barrens.

Q What are the Pine Barrens?

A AThey are a large area of land occupied by about 2,000 square miles approximately of land in the State of New Jersey which is 7,000 square miles, occupied by a fire climax. It is very much a vegetation associatiom which has been maimed by repeated fire. It burns over quite frequently.

ANd if they were located in such an area extensive clearing would probably have to occur in order to protect them. They would have of necessity to put roads through the Barrens which have very few roads through them. They are to all intents andpurposes the nearest thing to a wilderness area.

Q Do the Barrens have any ecological significance?

A They very definitely do. There are two species of vegetation which are not found anywhere else in the world located in the Pine Barrens.

There are three endangered animal species in the Barrens.

They contain three rivers which are identified as being in a wild state, the Wading River, the Great Egg River -- I am sorry -- the Great Egg Harbor, and the Mullica River.

They also contain various subcommunities of

vegetation which are valued by ecologists such as the Pine Plains area which has a dwarf tree species -- although the trees do not come up more than 3 or 4 feet called Pitch Pines -- this is on the higher elevations, which would be the most likely locations for the emplacement of position stations.

Q Are position stations mentioned in the impact statement?

A No, they are not.

Q Are they mentioned in the PDOD's?

A No, they are not.

Q Is the information available about position stations to the Secretary of the Interior or the Department had they cared to look for them?

A Yes.

Q Are there any other special physical facilities for offshore support? You mentioned before special ones. Can you mention them very quickly please.

A Well, there are facilities necessary for such things as fire fighting in relating to both fires off shore and fires on shore.

There would be training facilities necessary for the workers on the platforms and yards, and perhaps in the pipe cutting plants and other aspects of the industry

facility just in the sequence of discussion.

A The pipelines.

Q What does the EIS, the final impact statement, say about pipelines in the mid-Atlantic?

A It describes their location in Volume 2in a general sense, not in a specific sense.

And in technical paper number 1 it describes some hypothetical locations of pipelines.

In Volume 3 it discusses link detection of pipelines and their laying and operation, and makes certain comments about it.

Q Does it make any description about the land use needs that pipelines are going to have?

A It says that they can be estimated.

Q Can you estimate them?

A Yes.

Q Will you show the Court --- first where does the impact statement say that those four pipelines are likely to come in?

A It again discusses in general terms facilities needed in Cape May.

Q Try to come around this way (indicating)?

A In Cape May County, in Atlantic County, Ocean County, and Monmouth County, leading to pipelines to be

processed and facilities in Gloucester County, New Jersey, Philadelphia, Pennsylvania, Middlesex County, New Jersey and Union County,New Jersey.

Q Well, didn't the impact statement describe specifically one place to one place?

A Yes.

Q Can you describe for us where they said it would go?

A Cape May runs to Gloucester County. And Atlantic County runs to Philadelphia. Ocean County runs to Middlesex County. And the Monmouth County runs to Union County.

Q About how long is it from Cape May to Gloucester?

A 60 miles perhaps.

You can look at it on the map .

Q About how far is it from --

A 50 to 60 miles.

Q About how far is it from Atlantic City to Philadelphia?

A It is a comparable distance.

Q About how far is it from -- what is it -- Ocean County to --

A Middlesex. .

Q -- to Middlesex County?

A Depends where you put it obviously in Ocean County, but again a comparable distance. If you put it in the northern part of Ocean County it is obviously that much further.

Q How about Monmouth up to Union County?

A Again a comparable distance, in other words, 50 to 60 miles. In the case of Monmouth it would be shorter, 30 to 40 miles probably.

Q Now, have you made any analyses for having to bend the pipeline in case there are difficult land areas to get through?

A Yes.

Q What number would you come pu with for the number of miles of on-shore oil pipeline that would have to be built for the four pipelines discussed in the technical paper number 1?

A Approximately 300 miles.

Q How many miles to an acre does the pipeline take?

A According to the standard given in the environmental impact statement in Volume 2, Page 286, 6 acres to a mile.

Q Based on what --

A Carrying the 50 foot swathe of ground, keeping it maintained and free and clear of vegetation or other obstruction.

Q That is a 50 foot right of way going from one to the other?

A Yes.

Q Now, you said -- they said you said it was not possible for them to calculate it, and you did make a calculation.

Can you tell me how many acres of ground then you have calculated that will be needed for the pipelines in the event oil is found out on the Atlantic in the quantities that have been discussed in the impact statement?

A Approximately 1800 acres minimum

(Continued next page.)

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Q Would you put down the number for pipelines? (Witness indicates.)

A Yes.

Q Now, would you describe roughly where the pipelines are going to go? Are there any special type problems that come with the laying of pipelines and their installation?

A Yes, there are a large range of problems.

Q What are they?

A Associated with the laying of the pipe it entails whether you lay it, as some people have proposed, along the median strips or edges of the right-of-way. Those have to be torn up. In the case of it having to be torn up and relaid, in the case of superhighways, it would cause obstructions in traffic, that is, through laying them on the shoulders of the highway areas, shoulders which are usually designed to accommodate drainage from the road. It is a very delicate business where it is used for drainage of the road.

Q Do highways generally have a 50-foot right-of-way on either side available for pipelines in New Jersey?

A Most highways do not. I do not know about the superhighways. That would have to be checked.

Q Well, assuming that you can't go on a super-

highway, to your knowledge, is there available rights of way at this point that can be used by laying along roads for the insertion of pipelines?

A I don't believe so.

Q Now, can you discuss at all, Doctor, what are any of theproblems with respect then to laying of the pipelines? What kind of disruptions to these locations will take place?

A Well, pipelines have to cross other roads, railroad tracks, canals, if there are such, and there are some in New Jersey, and other pipelines which have to be dug up or interfered with, and New Jersey is a state which is crossed by many pipelines, particularly the Central Corridor, and in crossing streams the pipelines have to be buried. And of course they have to interfere with the ecology of the stream during the period when they are being buried, although that is probably not an absolute critical problem, but it does cause some difficulty. And whether they run through populated areas, obviously problems are caused in the sense that routes have to be selected to minimize the risk from pipeline leaks, and probably from explosions. And whether running through the Pine Barrens, which as I indicated, is an extensive area that several of the pipelines would have to cross. There would be a

derangement of the sensitive local ecology at that point.

Q How about when they come ashore?

A Yes. Well, depending upon how they come ashore, if they come ashore on a sandy beach it is not necessary to consider that they can do a lot of damage. They can be buried beneath the sand offshore and come up under the beach. And unless there is heavy storm damage or coastal erosion which might expose it, which is always a possibility, they are not likely to dc any damage.

Another possibility is that the coating, which is what did happen in Scotland, I think it was Orkney, on the approaches to the terminal where fishermen began to catch the pipeline in their nets, not on the bottom, but that was an imperfection in the pipeline.

So it would depend. In the case of the sandy shore there would be some mitigating action that could be taken. But if it were brought through the wetlands it would be considerably more destructive. It depends.

Q Could you characterize the impact the laying of the pipeline would have in going across through New Jersey?

A I think it would be highly significant.

I think in addition to the impact that I have indicated there would have to be some sort of land

acquisition program in order to acquire the rights of way, for example, to allow the pipeline to move across.

There would be problems with leaks and explosions. And just recently I think we are still in the process of listening to reports of failed welding joints on the Trans Alaska Pipeline, when somewhere between 2,000 and 3,000 of those failed.

One could assume that some more similar failures might occur.

Q Did this happen in Scotland too?

A Failure of joints?

Q Well, failure of welding.

A Welding in general has been criticized. It has been suggested that some platforms had problems with respect to yards in Scandinavia because of deep faults in the welding in the platform because of inadequate training of the welders. They get a very quick runthrough, usually in a company school. And they are working at very tight schedules to try to get the platforms out before the winter season. So there are some problems with faulty welding of the platforms.

Obviously in laying pipelines across New Jersey you would be taxing the capabilities of the local planning organizations which would have to spend portions

of their time trying to locate rights of way and minimizing construction problems and so on.

So it would be those kinds of impacts.

Q Are any of those impacts detailed in the environmental impact statement?

A No.

Q Was it available to the Secretary? Was this kind of information available to the Secretary or to the Department? Could it have been corrected easily and the impact analyzed?

A Yes.

Q If the problems are very great in laying the pipeline, if it turned out to be very severe, what would be the consequences? What happens if they can't get the pipeline --

A If the problems are very great there would be some pressure no doubt exerted to find an alternative way of getting the oil ashore from the platforms to the processing plants.

Q How would they do that?

A Probably by tanker.

Q You mentioned before pumping stations and -- by the way, this tanker sequence which you just mentioned, was it discussed as an impact -- in discussing the pipeline

in the impact statement.

A It is assumed that pipelines would be used to bring the oil ashore. Tankers will not.

Q They didn't have any kind of conversation of any kind or any discussion about how if the pipeline is not in place it may be brought in by tanker?

A No, they don't discuss it. Except it is just a common occurrence if the platform is constructed ahead of the pipeline and the oil may be moved asnore by tankers until such time as the pipeline is completed.

(continued next page)

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Q Now, you mentioned a few minutes ago, right at the beginning, that one of the other facilities that is going to be needed are pumping stations and compressors. What are they?

A Pumping stations are usually located at the land form terminal at pipelines. And they are designed to adjust the flow of oil along the pipe to accord with the desires of the processors at the other end and also to keep moving the pipe. They are usually spaced at various distances along the pipeline, depending on the type of topography that the pipeline has to go through, the type of oil that is being pumped as well.

The gas compressor stations perform maybe a similar function, although they are usually -- there are usually more of those than there are pumping stations because gas being a gas rather than a liquid has more problems. Some gas -- the flow of gas through a pipe can clog in maximum capacity. Some of it can literally be stored. It needs to be compressed and pushed forward again in compressor stations.

Q Now, you said before -- how big is a pumping station?

A The pumping stations that I have seen in Scotland consume 50 acres of land. I am not sure that that is a necessity. I think that's the additional land around the

pumping station which is used for buffing to keep people away from approaching the pumping stations. But 50 acres was on occasions for gas pumping stations or compressors.

Q How about gas compressors?

A Yes.

Q Same size?

A Yes.

Q Assuming that we have these four pipelines that the impact statement talks about, how many pumping stations and compressors are going to be necessary?

A Well, within pumping at the land full terminal at least four of those for the oil pipelines and for gas pipelines. And then additional others would be needed to -- and perhaps somewhere along the line -- I can't say how many. It would depend on the characteristics and what they are pumping.

Q But about how many acres, then, would you say would be called for all together just for pumping stations and compressor stations?

A Perhaps 100, 120 acres.

Q Would you record that down as the --

A Yes.

Q Is there any reference to pumping stations in the impact statement?

A There is a reference to the pumping of oil in

volume three. Pumping of oil from platforms under pressure. But there is no reference to the station, sub-station on land.

Q IS there any reference to compressors?

A Not to my knowledge.

Q Okay. Was that information available or could it have been -- that information have been available to the secretary or the department if they looked for it?

A Yes.

Q They wouldn't have to make a survey for that?

A I don't think so.

Q Now, what is a gas processing plant?

A Well, it's a facility which strips various impurities from the gas and processes it into useable commodoties for -- for example, petro-chemicals, feedstock, for -- and they take out carbon dioxide, hydrogen sulphide gas. Those are two possible impurities. And the by-products also take out liquid hydrogen, heavy hydro-carbons which tend to clog up the pipe. There is the condensation inside of the pipe if they are not removed soon after the gas is taken from offshore to shore.

The kind of products that gas processing stations would supply is feedstock and would include sulpha, butane, ethane, heavy liquid hydrocarbons. A whole range of others, but --

processing station to separate the water from the gas?

A That can be done offshore. It need not be. But it can be done offshore, in the platform.

Q So that basically what you are dealing with is just separating the hydrocarbons; is that correct?

A Yes.

Q Okay. Now, how big is a processing plant?

A A hundred acres. There are other estimates given in the impact statement, but I think my information is better.

Q And your information came from where?

A Columbia Gas Corporation, in a letter of May 16th of this year to the Department of Environmental Protection in the State of New Jersey, for one, the meeting corporation report for the Office of Technical Assessment, for a second. The Woodward Clyde Study for the American Petroleum Institute for a third.

Q And they say how big?

A They have estimated -- estimated larger than that contained in the impact statement. It says 20 acres for gas processing plants. The Columbian Gas Corporation says 25. The Woodward Clyde says 75. The DDM Corporation says 25 to 100.

Q So approximately, then, assuming again that we

are going to have four pipelines bringing it in, how many acres would you say are going to be required for gas pumping stations?

A I'd say --

Q For gas pumping --

A 400 acres. Because very frequently the gas companies take more land than they absolutely need in order to expand for the future. I have seen stations go a lot larger than that.

Q Will you put that down on the chart as the land use.

Do gas processing plants generate pollution?

A Yes. They emit sulpher dioxide into the atmosphere. That's usually their most noxious emission.

Q Do they use a lot of power, electric power?

A I can't answer exactly. I just don't know.

Q Do they use a lotof water?

A Yes. Fifteen gallons a day of water is the estimate for a gas processing station.

Q Are they referred to in the site specifics, FES impact statement?

A In the site specific, yes, they are mentioned.

Q Is the discussion as accurate as to the acreage?

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A Not accurate as to acreage.

Q Is their discussion accurate as to the coastal side of the gas processing plants?

A It's misleading.

Q Why is that?

A They imply that they need not be located close to the shore. There is an arguable case about this point that, indeed, it's very likely that they should be located close to the shore because the necessity is stripped, the heavy hydrocarbons.

Q What happens if they are not located close to the shore?

A Then the pipeline suffers. The problem of hydrocarbon condensation, clogging.

Q So that their preference is to locate close to the shore; is that correct?

A Yes.

Q Does the impact statement encompass any of these comments that you have just made about the problems of gas processing plants?

A Not the comments that I have made. It makes some other statements.

Q I refer now to Volume 2, page 241, 242 and 249 of the impact statement.

THE COURT: Well, go ahead.

MR. KAUFMAN: Okay.

Q Now, coming from the gas processing plants, one of the other items you mentioned was refineries. Will you discuss what are the impacts of an oil refinery?

A They can be very extensive. The characteristics of the refinery include the land consumption, acreage consumption. Usually twelve to fourteen hundred acres of land is required. According to the CEQ Study, space for roads, buildings, storage and waste, water treatment, steam and power plants, warehouses, tool shops, railroad tracks, docks, drains and buffer zones around the refinery. Employment for four or five hundred people for 200,000 barrels a day capacity refinery. Water demands which may be very heavy indeed for that size of a refinery or for a refinery of 250,000. The standard that has been quoted is ten and a half million gallons a day. Water withdrawals of which four and a half million gallons a day are consumed usually through evaporation within the plant.

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Q Is that fresh water?

A It may be brackish water. If it's used for the condensers, it's fresh water.

Q Where would the refineries find brackish water?

A Close to maritime locations.

Q Coastal areas?

A Coastal areas.

Q Now, do refineries have substantial quantities of emission?

A Particularly of hydrocarbons emission, yes. 11,000 tons per year. From the refineries -- of the standards that I have been discussing, 200,000 barrels a day refineries.

Q Would that cause any problems?

A Well, they are smelly. If you lived near one. They are glaringly lit up at night, both with lamps and natural gas flares. They are usually surrounded by water which is polluted due to spills from tankers and barges which are taking away the products. Not necessarily bringing in the crude oil. If you have been on Arthur Kill, for example, between Staten Island and New Jersey and gone in a boat up there, you have to scrape the boat when you take it out of the water.

They are girdled by bundles of pipes leaving the refinery to supply the petrochemical industries. Or as

in the case of Bayview in New Jersey, they supply the Linden Generating Station across the road. They are generally located, as I mentioned, end and near navigable waters for tanker and barge access for the products, and brackish water for the condensers. And in general they are not regarded as very desirable neighbors by most communities.

I think the proof of that particular pudding is the difficulty which people at -- which the oil companies have had in placing oil refineries in England. Several have been rejected in the past two or three years. And I think it's a common pattern. Also the pattern in Scotland. I might add that oil refineries are not regarded as desirable.

Q Are the impacts of expanded refineries as opposed to new refineries any different?

A Yes, they would be different. Obviously, they wouldn't consume as much land. But they would have a similar range of impact qualitatively. They might not have quantitatively the same impact.

Q Now, if you put a new refinery or expanded refinery into the community, if one gets in there, does it extend the impact as well as the pollution impact?

A It certainly does. It generates or attracts to itself industries which use feedstock. Primarily, the petrochemical industry. It also may attract other manufacturers

at producing large quantities of, say, cheap natural gas for example. Their jobs from these offshoots would -- with demand for land that the petrochemical and associated industries have demanded. Land power. Land for themselves. Their own air pollution problems. And being large water users, refineries have tendency to deprive other users of water of their supplies. Domestic users of water.

There are problems with accidents from fires and explosions which pose dangers to the workers. This is in both refineries in the petrochemicals, of course, and --

Q Is that common?

A Well, within the past two years we have had large fires in the Dayware Refinery in Texas, several in Baltimore. And even Frank Russo, the mayor of Philadelphia, broke his leg fighting it. Several in the metropolitan area around New York. One just last week on oil slops in Bayonne which took several hours to burn itself out.

Q Are any new or expanded refineries a likely impact in the mid-Atlantic area if oil is discovered in the mid-Atlantic region?

A Yes.

Q Before we get into the reasons, will you put down on that list a number of refineries which are anticipated.

A One refinery, twelve to fourteen hundred acres.

I will put in twelve hundred. It could be more.

Q That doesn't include anything that would be for new housing or anything like that?

A No. This is the basic acreage for the plant.

Q Okay. On what do you base your conclusion that new refineries will be required in the territory if oil is discovered out in the mid-Atlantic?

A On a number of points. First, I think that the environmental impact statement says, Volume 2, page 262, and I quote, that the proposed leasing area should increase in petroleum refined activity for the region as a whole.

So I think they make the point themselves.

Secondly, that refineries are permanently built facilities. In some way similar to platforms in this regard. They are designed to utilize certain kinds of crude oil. And they have a number of rather complicated processes strung together, depending -- in combination, depending upon the kind of products that they want produced, the output they want produced for the -- the feedstock, for the petrochemical industries and other users. These can be put together in different combinations to design a refinery to alter its capability to deal with a different kind of oil.

For example, it takes, according to the National Petroleum Council, three to six years to design a major

facility within a refinery, to make it suitable for using a different kind of oil from that currently coming in. The refinery sub-processes vary a good deal between individual plants. And I think you have some proof of the designing and the purposeability plan with new refineries that are being constructed at Ranier, Oregon, Fairbanks, Alaska, and both now being constructed. There is one in Provd-Hoe Bay location in the north slope of Alaska.

For example, if the -- the oil off the Baltimore Canyon, off the coast of the Middle Atlantic States, where very heavy residuals, the heavy elements within the crudes, and if the demand for gaslines were to rise nationally, then there would be the need to create extensive cranking facilities to change these residuals into gaslines and lighter fractions. And this is the kind of thing that requires time. Nationally, the trend in oil refineries have been toward the production of more residuals and a few light elements, the gaslines, jet fuel and so on. So it's quite likely with this national trend that you would need to put in trans some change in your refinery process. And these will take time to bring about. And because investments which might be just as easily achieved in new facilities rather than modifying the old facility, there is also a tendency toward regional self sufficiency in oil refineries. That's a tendency being

detected by Arthur D. Little in their deep water report study and by the CDQ and by the BDM report for the OTA. Increasingly, it is felt that the mid-Atlantic region, which now refines only enough oil to accommodate a quarter of the regional demand, will move toward increasing self sufficiency. The petrochemical industry very much wants to be near new sources of supply or additional sources of feedstock supply and to market.

If you look at the impact statement for resale number 38 in the Central Region of the Gulf of Mexico, there is an extensive report by a -- I presume it's a Dr. Whitehorn. This is one of the reasons why petrochemical industries are either encouraged or discouraged. And the chief reason cited by the petrochemical industries is if they want to expand, they want to be near sources of supply. And they presently don't have enough in their current locations. And they would also like very much to be near the center of demand.

Q Is this a center of demand?

A Very much a center of demand. The oil -- as I have stated before, they refine a quarter of demand for petroleum products.

Q Excuse me. Let me interrupt you for a second to ask one or two questions and then I will let you go.

In other words, what you are saying to me is

that if the supply is there and the demand is there, the facility will locate there?

A Very likely.

Q If its facility -- the petrochemical facility is located there, what happens in between?

A If the --

Q If the petrochemical industry wants to come up here, what will that do with respect to the refinery?

A Well, it encourages refineries -- that's the whole point with petrochemical industries. The pressure would be to provide them with those supplies through expanded refinery operations. And another reason why Ithink there may be new refineries and will -- not only may -- is that the cumulative impact of discoveries in the North Atlantic and the South Atlantic resale regions, and possibly additional sales for the Mid-Atlantic Region if more oil and gas is found in these areas, then that is likely to be pumped ashore -- especially from the North Atlantic Region, because there are no sizeable refineries north of the Mid-Atlantic Region to find that oil. I think it's also very likely that oil may come from other parts of the world.

And this is at page 55 of that issue, and I quote. It says that the Atlantic North Slope -- I should say the Atlantic North Slope, quotes will almost surely move

through the Panama Canal or around Cape Horn to the Gulf of Mexico or the East Coast. The, Scottish northmost element of the Scottish North Sea off the Shetlands Islands is presently being pumped ashore by a pipeline to tanker terminals in Shetland. In the main island in Shetland where it is stored for future transshipment hasn't yet been shipped out yet because it is not controlled by CLCC, very large crude carriers, 300,000 deadweight carriers which cannot gain access to the ports around the Northern North Sea and are most likely to be looking for some other locations to deliver that oil. And the most logical alternative is to North America and the Middle Atlantic Region.

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A (Continuing) I think so, unless there's the problem that many of the people who are going to be biddig for this Lease Sale No. 40 have problems with refinery capacities. Shell Oil, for example--

Q Go ahead.

A Shell Oil is one of the companies that has indicated a desire, according to Mr. R.L. Ferris' affidavit, page 2, to make a strong attempt to take oil out of the mid-Atlantic region. They're strongly interested in bidding on this. They have no refiners in the mid-Atlantic region, and it's very likely they will want to build new refineries, because the other companies will not want to commit their refineries in excess capacity, if they have any, until they discovered what their kind of returns from the mid-Atlantic region is going to be. They are going to hold that in reserve.

Chevron and Texaco have very small refineries, 60,000 or 70,000 barrels a day, and they, too, might want increased refining capacity.

Some representatives of the oil industry have informed planners they will build, if in fact the need arises, in New Jersey, and there is an indication that at least one Amoco vice president has said that he doesn't think there will be self-sufficiency, possibly by 1975, and

he is quite willing for the oil and gas to assume-- If that's the case, then the imports are likely to come in.

Oil is wanted by some of the states on the East Coast. The Government of Virginia is very open to accepting oil refineries, and it may well be that other states will make a similar attempt.

I think all of these factors taken together indicate that there's an almost a certainty, a very high likelihood that oil refinery expansion or new refineries will be created in the mid-Atlantic. That is as a result of this sale.

Q Does either impact on the programmatic or the final mid-Atlantic detail or analyze the impact refinery capacity resulting from this sale?

A No. They make a series of assumptions about barrel-for-barrel replacement, which is barrel-for-barrel of imported oil. They do not get into details of that kind.

Q Does the PDOD discuss the impact that new or expanded refineries on OCS sale 40 would have resulted?

A No.

Q Now, you were talking a few minutes ago about petrochemical plants and how they would have an influence on refineries in terms of bringing them into the community.

A Yes.

Q I was going to start out saying, Do oil refineries have a downstream effect, and you answered that petrochemical companies would. Why is it? What is it they are looking for?

A The chief sources of feedstocks, the kind of feedstocks.

Q You named some of those feedstocks. You said ammonia.

A Ammonia, sulfur and ethylene, would be.

Q What are they?

A Sulfur is extensively used in the rubber plants, and ethylene for plastics. Some other components are propylene for artificial fibers.

Q Do you know what the impact of a petrochemical complex is down from a gas processing plant?

A Yes. I can give some indication. A typical petrochemical complex would employ 2 and a half thousand people, cover 300 acres of land, have heavy air and water pollution burdens, and heavy water demand; 24 million gallons a day is an estimate for that particular facility, and they would also need power supplies.

Q What happens when you put in extra power supplies?

A Presume that, too, has pollutant effects.

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There are also other side effects. If you want me to get into it--

Q Let me first deal with a couple of these you mentioned. First of all, how many of those do you think are likely to come in if other oil is found?

A Well, Arthur D. Little has made some projections on it. If there is a modest increase in refinery capacity of 150,000 barrels a day, 460 barrels a day, it would generate two to six billion pounds ethylene.

Q Two to six one-billion pounds?

A Yes.

Q If you take the lowest number, that's how many? That's two?

A Two.

Q At about how many acres?

A About 300 acres.

Q Will you put that number down on the list?

A (The witness left the witness stand and recorded that number on the chart.)

Q Now, you said that one of these plants used 24 million gallons a day of water.

A Yes.

Q If you are talking about two of them, you are talking about 48 million gallons a day of water. Is that

kind of water available in the State of New Jersey?

A It depends where in the state you are talking about. In North Jersey it's not available, nor is it likely to be available. In South Jersey it might potentially be available if the aquifers, under the plan barrens were tapped.

The State of New Jersey has long protected those aquifers for industrial use.

Q What about the effects on air that a petrochemical plant would have?

A There would be pollution from hydrocarbons, and probably from sulfurdioxide is extensive.

Q Does the site specific impact statement have this information detailed in the site specific statement?

A There is a discussion on the results of the analysis of the harvest model from technical paper No. 1, which is in very generalized terms, which might happen to rubber chemicals, and allied products industries, and some rather vague expansion of facilities, but there is no discussion of the impact of these facilities.

Q Or their size?

A Or their size. There is reallyno hard information.

Q So what was the total number of facilities that

we have talked about up until now which are going to take up land use acreage, Dr. Mitchell?

A Well, in this case-- You mean you want me to add it up?

Q Yes.

A O.K.

(Whereupon the witness left the witness stand and proceeded to the chart.)

A I make it about 12,220 acres, using in every case that I have quoted, I believe the lower estimates rather than the higher estimates of the ranges.

Q The 645 acre number that's there, we talked about direct effect; is that correct?

A Yes.

Q Now, did the impact statement mention anything in the number for indirect effects which might be the equivalent of that 600,000 acre figure?

A No. Would you like me to tell you about indirect?

Q Yes. Those would be based on the 645 or whether the impact statement dealt with it?

A It said there would be 1750 acres of the residential acres.

Q 750?

A I said 1750.

Q With residential land?

A Yes, if it did not make any estimates for commercial land.

Q Would you put that in there.

(Whereupon the witness left the witness stand and proceeded to the chart.)

Q All right. Based on what you have testified to, and the calculations that you have made with respect to the land use facility demand that will result from the discovery of oil on the outer continental shelf, have you formed an opinion as to the adequacy-- Withdrawn.

What is the total number of acres that the environmental impact statement says will be used, both direct and indirect?

A To my knowledge, they don't make a direct total; they leave that to you.

Q Well, will you add them.

A 5932. 2,395. That 1750 figure might also be challenged. I don't know. If you want me to talk a little about that--

Q Do you think it's high or low?

A It's low. It's based on the idea of half acre zoning, and the State of New Jersey has carried out

an analysis for that statement which indicates that, I believe the figure is 3,250 acres that they would estimate for that kind of residential development.

Presumably that would be altered according to other zoning elsewhere in the shore. That's an extended figure.

Q What is the total number of acres that you believe are going to be called for as a result of oil being found on the outer continental shelf?

A I think that the totals on the right-hand side of the paper here, the 12,220, are quite feasible numbers for direct-line commitments.

Q Based on your testimony here this morning, and your analysis of the various land use demands and impacts, have you formed an opinion as to the adequacy of the discussion in the impact statement on land uses?

A I have.

Q What is that opinion?

A That they are grossly inadequate.

MR. KAUFMAN: Your Honor, at this point I still have a considerable amount to go, but it's a different type of subject. It might be a very natural place to break.

THE COURT: How much longer is your direct

MR. PICCIANO: I assume there are other U.S. Attorneys.

MR. HYMAN: Your Honor, I was present during the other depositions. I was present at all the depositions. I know exactly what the status is. It is not something that I can give to somebody else.

THE COURT: Well, what about Saturday? I hate to impose upon you. I know what an imposition this whole trial has been on everybody over the hot summer.

MR. HYMAN: Well, I think I would rather do it on Thursday if the ordering is to be done, but I do not see a need for it--

THE COURT: Who is going to come to trial while you are away?

MR. HYMAN: Mr. Jensen.

THE COURT: Then we will go ahead on that basis. Thank you. Proceed.

DIRECT EXAMINATION

BY MR. KAUFMAN: (continued)

Q Dr. Mitchell, one of the topics that you mentioned that you had covered in your reading and specializing in the impact statement is the subject of leaching of oil.

Is there much calculation of the possible economic losses if there is an oil spill that hits one or more beaches in the impact statement?

A There are no figures of loss given.

Q Is there a way of calculating what a beach loss might be?

A Yes, there is.

Q What is the way of calculating? Can you describe a way of calculating what those beach losses are?

A Well, the Bureau of Land Management commissioned a study through the U.S. Travel Data Center to inquire into the amount of money spent on travel and tourism in the Middle Atlantic Region, and there is data in that report which, when taken together with the data on the summer populations of shore front resorts and the beach attendance figures in those resorts, that permits one to calculate the number of people who would be deterred from going to the beach, and hence the kind of spending that would be deterred by an oil spill.

Q Would this information be available to the secretary if he chose to go and find it?

A Yes.

Q No survey needs to be taken now?

A No.

Q Have you calculated what the beach losses could be for any part of the area that we are talking about in the mid-Atlantic if there is an oil spill?

A Yes.

Q Will you tell us what areas, please, and what those losses can be?

A I have calculated from a samples figure from Cape May County that if an oil spill were to occur during one week at the height of the tourist season, the range of loss in tourist spending to the community, and this only would be direct spending -- total spending -- would be from $650,000 to $3 million for Cape May County beaches.

Q In the one week?

A Yes, in the one week.

Q Is there any other data available?

A Yes, there is some cross-data from the Environmental Protection Agency which indicates the potential damage, pollution damage, on Long Island, would amount to $30 million for all recreational beaches.

Then they give some other estimates for other areas around the nation, some based on actual damages and some of them based on projected damages.

There is also a statement from the Long Island Association of Commerce and Industry in relation to

the recent sludge beaching on Long Island, which performs a very similar kind of function when they closed the beaches when the residue came ashore. And they estimate that Long Island was losing or would lose $10 million per week in tourist spending and about 6,000 jobs would be affected.

This was attached to a statement of Mr. Hensler of the EDA--

Q And are these numbers within the same range of the range of calculations which you did for Cape May?

A Yes.

Q And did you calculate it for any other areas?

A I calculated with some more difficulty for the specific locations in different counties because the data is more difficult to obtain for communities.

But for Atlantic City the range would approximate for one week of prime season roughly what it would be for all of Cape May County.

Q Do you have some idea of the numbers with respect to the summer population of Cape May County?

A For example, Ocean City in Cape May County, I believe the calculated population for 1980 is 3,000 people. And the calculated summer population is 130,000 people for 1980, and those are just extrapolating current trends. The

And one or two facilities on the shorefront--one was a state facility, and there is now the National Gateway or recreational area of the Federal Government--so that deters people from coming long distances.

And there are also existing restrictions on Island Beach State Park such that when a number of people entering a certain area within the park passes a threshold level the gates are closed.

There are other kinds of restrictions in the normal public beaches of New Jersey and Long Island.

Beach badges must be purchased by many of the people who propose to attend many of the beaches and often must be purchased well ahead of time.

Parking frequently has been discouraged in the vicinity of the beaches. This last year many New Jersey communities have been engaged in a lawsuit along the subject of restricted beach access and have moved to put up 30-minute parking signs and other things to prevent people using the beaches.

The sum total of all this is that for example in New Jersey 65 percent of the coastline of the state has some form of restrictive access associated with it. And if there is oil beaching the kind of assumption which is implied in the impact statement, that the people will be

able to get up and move to the next beach down the line, is not a supportable assumption at all.

Q Is this considered or detailed anywhere in the impact statement?

A No.

Q One of the other things you mentioned, Doctor, was the question of natural hazards.

Will you discuss that for the Court, please, or comment on what are the natural hazards that are in the area of the on-shore development.

A Principally natural hazards are severe storms, which include hurricanes and also northeasters, coastal flooding, coastal erosion, and forest fires.

(Continued on the next page.)

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identify it?

A Yes. It is a relief model of the State of New Jersey which is in my possession.

Q Do you consider it an accurate reproduction of the State of New Jersey?

A Yes.

MR. KAUFMANN: I think it has been marked.

I offer this into evidence.

THE COURT: Mark it.

THE CLERK: Plaintiff's exhibit 18 for identification marked in evidence.)

Q Would you show the Court on this map, because I notice it shows elevations which are what you would call the coastal areas of New Jersey --

A Those low-lying areas adjacent to the coast including segments along Roritan Bay, some low-lying land around here (Indicating), but more especially the large flood plain areas which include wetlands and barren islands and down here as follows in the green dark areas in the outer segment of ocean county, Atlantic County and most of Cape May and around in a wide band along the Delaware Bay Shore and narrowing up towards Camden and Philadelphia.

Q Taking the point from Cape May down to the bottom along the barriers up towards Long Beach, how wide is

that coastal area approximately that is within the flood area?

A It varies in width.

Where there are extensive wetland areas as in Mulcar River, it can be a matter of eight to twelve miles of wetlands running inland, but typically in Ocean County the region is narrower than that, two or three miles in diameter, and the Delaware communities are very large, ten or fifteen miles.

Q Are those places suitable for the location of the types of facilities we were talking about this morning?

A Not in relation to flood damages.

Q Are those -- what is the area immediately behind it?

A There is a very narrow track of cleared land into which most of the development in the Jersey shorefront counties which are crowded. It runs along a parallel line here to group nine, parallel to the coast.

Apart from that, immediately inland one reaches the Pine Barrens. They run two thirds of the way to Philadelphia and Camden.

Q Is there anything in the exact statement that details the implications of what would happen in this local area by the attempt to introduce major facilities such as processig plants, pumping stations, refineries and the like?

A Not in relation to the flood hazards.

Q What would happen if you put an oil refinery or a gas processing plant into the Pine Barrens?

A You can have a fire around there sometime.

Q In terms of the kind of facilities we were talking about before, you mentioned a little about water demand.

What is the relationship of the development of the OCS territory to the demand for fresh water?

A Many of the facilities have heavy water users: refineries with abstractions, ten and a half billion gallons a day.

Q What else uses water?

Do electric power facilities use water?

A They can, yes.

Q Do gas refineries and refineries of petroleum use heavy water or electricity?

A I am not sure of the figures.

Q Do rubber plants come under the category of big users, and sulfer plants, are they big users of water?

A Yes, frequently.

Q Do the environmental status statistics discuss the water users in kind of measurements?

A In some instances, yes. Figures for refinery demand of water are given in one instance -- one reference.

I think the figure quoted is four million gallons a day -- per hundred thousand gallon refinery. There are some figures for gasoline processing plant usages. Just sample figures are here. Apart from the sample figures, there is no quantitative estimate of the total water usage or availability of water within the region.

Q Does New Jersey have substantial supplies of water available for industrial development?

A Water users are feared by the Department of Environmental Protection more than was the 1960's, during the severe drought of 1960 or '66 or thereabouts. Water shortages will become the most important public problem in New Jersey within the next ten years. Much of the state already has water shortages.

Q Does the state project a net surplus or deficit of water?

A It has projected a net deficit of water in 1985 by six hundred million gallons.

Q Net deficit of six hundred million gallons?

A Yes.

Q Daily deficit?

A Yes, I believe so.

Q Do the environmental statements discuss more particularly the water demands of development as an impact on

New Jersey?

A Again, not in cumulative numbers.

Q Does it discuss it, the information as water demand within the region?

A No.

Q Did it mention the limitations of New Jersey, of the New Jersey ground water supply as completing demands?

A No.

Q Let's go back to the pine barren. I guess the only -- You have described what they are. The question I would ask is is it discussed in any way in the impact statement?

A No. They are referred to once within the statement. It is not in relation to any of the problems I raised.

Q Not with respect to the fire or water shortage?

A No.

Q One of the things you had begun talking about is dangers, and what happens if something goes up.

Are there any community safety hazards relating to the development of oil relating from the oil continental shelves?

A Yes. Some of the things I discussed earlier with relation to fire, certainly those constitute a fire hazard.

know, if you read -- looking at that, what does it lead you to believe?

A I think it would lead the reader to -- it would tend to make the region sufficiently large so that any onshore impact would appear to disappear in this large volume of people, large number of acres within this greater region.

Q Do you have any further comments about the figures and the assumptions within technical paper number 1?

A Yes, sir, a number of comments. I think one of the problems with technical paper number 1 is that there is no international data, for example, that it fed into the monitor. Certainly not identified in the paper.

The oil and gas industry is by all accounts an international industry which transfers capital between countries, between continents. And clearly this should be imputed into the model. The data in the model are drawn from different years, and thus, to some degree, having amounts and/or range problems, spillover from one year to another.

There are questionable assumptions in the impact technical paper that -- for example, about the sequence of development in assumptions 14 and 18 in the technical paper. Those assumptions refer to the sequence of implacement of onshore support bases and onshore terminals for pipelines. If you look very carefully at them, it seems in places to be

putting the cart before the horse.

There are many parts of the region -- parts of the region wherein the onshore support bases come well after the pipeline terminal. And this does not make sense for a large variety of reasons. There are some internal inconsistencies. There is no attempt to analyze the nature of the population within the technical paper, either to treat it as if it were really living entities, that instead of a lot of numbers about retired people who have completely different capability of being included within the labor surplus calculation in the region -- and obviously the labor surplus figures for a community with a kind of a large number of retirees are going to mean something different in the -- in a mechanical way than they would with a community of young people. There is no sensitivity in the technical paper to these differences within the counties. Of course, there is the use of -- the regional use of national coefficience. And I suppose there are also the problems that the technical paper very clearly alludes to the location of facilities, even though it's a hypothetical statement, whereas the environmental impact statement makes no argument about the location of specific facilities. And yet, the information from the technical statement is -- it is information about which the environmental impact statements state a lot of its cases beyond that. And

I quote from the technical paper, page 3, where it says very clearly in the beginning that the writers of the technical paper obviously very clear to themselves on this point and says that the economic model is not protecting what will happen. It is only suggesting what could happen given the hypothetical scenario that was developed as a result of the economic model and should not be taken as a policy statement and are in no way implying an actual development production plan to be formulated in the future, or will contain the factors of the hypothetical scenario used for the economic model. And yet, this is exactly what is done in the impact statement. The results of themodel are used to exemplify the kind of impacts in a regional sense, in a local sense that would be generated by the hypothetical development scenario, even though the model -- even though the model users were sensitive to the limitations of that model.

And even further, if one could make something about the nature of the model which assumes that the location is the driving force for industrial development in a region, one could equally well develop models based around business organizations, public policies, centers, labor for skills, rather than the propensity to relocate industry and come out with a wide variety of results.

Q Talking, Dr. Mitchell, about the physical

facilities themselves, does the impact facility place any of those facilities in New York other than that one based in Kings County?

A I don't believe so.

Q Does it make sense, then, to include within the impact population economically the population of all of New York City and a lot of New York State, going all the way as far as Albany?

A No. It doesn't seem to make any sense to me.

Q Does the impact statement place any of these facilities in Virginia south of the Del-Marva Peninsula?

A Not to my knowledge.

Q Does it make sense, then, to include the population of that part of Virginia into the economic impact?

A I think it's misstating to do so.

Q Would you say what are the consequences of their including all of these populations into the impact statement?

A I -- again, they tend to reemphasize in the minds of the reader the total impact, to lull him into a sense of complacency about the -- that the region is so large and the number of people is so great and the impact would be very little.

Q Is that true?

A I don't think so.

Q What are the specific effects with respect to employment and job changes within thecommunity?

A There are -- what are the side effects? You're asking of employment?

Q Yes. That's right.

A A whole sweep of development which follows would include such things as expanding the utilities, the source for water, the solid waste disposal system, expanding schools, expanding the stores, the recreational facilities and the roads. All of the normal support systems for the community.

(Continued on next page)

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THE COURT: Is this New Jersey?

THE WITNESS: No. In reference to any area.

THE COURT: We are talking about a statement, the ten per cent unemployment rate. Highly industrializ built up state. I don't understand what this discussion is.

THE WITNESS: Well, the -- one of the assumptions I think is that somehow or another there will be created a large numberof jobs which presently unemployed people will take up in the area. But that doesn't seem to be the way a development occurs elsehwere. The jobs that are really opened up for the unemployed are the low level, low skilled jobs in the area. And the people who have the least propensity to move within the region -- and they talk about regional migration -- are intra-regional migration. The poor did not have that kind of propensity to move to jobs, and the low skilled people don't have that propensity. So at the very least there is confusion in the job creation argument. It really isn't clear.

THE COURT: Skilled people move from other areas of the country and --

THE WITNESS: Well --

THE COURT: (continuing) -- and take up new jobs.

THE WITNESS: That may be. But I think many of the facilities that would be in place in the coastal zone are going to -- they are going to train people in any case. So even those who are not necessarily fully skilled could gain that kind of training if they so wanted to. And if they are on the spot, they may well do so. This is the history from Scotland certainly.

THE COURT: All right. Scotland.

THE WITNESS: Yes.

THE COURT: Scotland is not industrial like New Jersey.

THE WITNESS: I think that is a misconception that people perhaps have. The central valley of Scotland, which contains 80 per cent of the population, is one of the -- it's the heart of the industrial revolution. I mean it's there that you have the shipyards that built the Queen Mary, the Queen Elizabeth I and II. You have the steelworks there. The motor car manufacturing are located there. It's heavily industrialized. In fact, it bears a great deal of resemblance to New Jersey. Seventy per cent of the population is similarly in that concentrated belt. And where a lot of the development will take place is on the less populated area. It is just the same pattern

as in Scotland. And the pipelines were run across those intervening areas, and all of the facilities were --

Q Before we go on to the next thing, you have discussed the conclusion in this --

MR. KAUFMAN: I don't think this is in evidence. I move that Plaintiff's Exhibit 20 for identification be put into evidence.

THE CLERK: Yes, it is.

MR. KAUFMAN: Is it in evidence?

THE CLERK: Yes.

MR. KAUFMAN: All right.

Q Now, Doctor, one of the things you referred to before was the Woodward Clyde Study, which was a study prepared by the American Petroleum Institute. Now, can you tell me what their assumption is about the length of time it would take for oil to be produced after the time a first lease is granted?

A Eight years.

Q Does thatmake sense to you?

A Seems like an inordinate amount of time.

Q Was it your experience in Scotland that it took eight years?

A No.

Q How long did it take to be produced in Scotland

from the time you had it -- from the time they first leased it. Do you know?

A Well, I think perhaps the time they first leased it, exploration began, and assuming that exploration follows after the leasing, in the area of the North Sea where the -- they subsequently found oil, northern North Sea in about 1967. And by 1970 -- by the latter part of '69, the oil companies were already to give up and move out. They spent three years looking for oil in detail in the central basis of the North Sea. And within the space of a year they struck -- well, first of all, in this field, in the Norwich section, the British section, and in the Scottish section, the whole pattern of development changed virtually overnight. And all the onshore parts that we have been discussing came onstream. So it seems likely that -- well, after, say, three or four years of exploration, if nothing has been found, there is a very strong impetus to stop exploring. Certainly in those areas. And then move elsewhere. Maybe some other parts of the world.

Eight years is a very long period of time to keep plowing away in the same area and looking for oil and if you're not finding it, not bringing it inshore -- and that's where we need to get it, ashore, to satisfy market procedures and stop importing Mideastern oil and so on.

Q How long does it take in your experience, the Scottish experience, from the time they find it and it being delivered as produced?

A It came onstream last year, 1975. So youhave had from '70 to '75 which took five years. There was earlier oil in the stream, but not in the British section. That was the Norweigan section. It came in on pipeline from the northeast side of England the previous year. So that was approximately four years in that instance.

Q Now, going back to the Harris Study, the technical paper number 1. Does the Harris paper acknowledge the ranges of population at the low levels? That is, what could happen, for example, in a place like Northampton County? If production came in or production is not coming in, does it deal with that at all?

A The Harris model doesn't do it directly. The MIS does have an indication study based on using the Harris model results for Northampton County. It's a very flimsy kind of case study. But they do say there may be some impact. And it goes on to describe the quality of terms. They do not analyze in depth. They don't give the kind of information that would be necessary for a planner, for example, to have if he's going to try to cope with those impacts.

Q Would you say they are adequate or inadequate?

A Well, they are not qualitatively accurate in the sense they discount things like the -- they tend to discount things like the construction platform industry.

Q And the town of 20,000?

A Exactly.

Q Just a couple of more things, Doctor, and I think we may be through. One of the other things we talked about before was the question of tankers and the possibility of tankers being used to replace or, you know, being substituted for.

Now, what does the impact statement say about tankers being used instead of pipelines?

A It leaves one with the impression that they won't be used. But it doesn't say they won't be used.

Q What does it say?

A It says that where technically economically feasible pipelines wll be used. And that's part of the lease.

Q Let me just pose a couple of more questions to you and ask you to comment on them.

For example, if there are too many finds too soon, if there are a lot of finds right away, and the pipelines are not in place, what is likely to happen?

A It's very likely that you can't bring in pipe

construction and pipe coating activity and pipe laying on the line quickly enough to service all of those finds. If you decide to develop them, then, indeed, tanker transport seems to be the only feasible way of getting it ashore.

Q So that -- that would increase tanker traffic; is that correct?

A Yes.

Q Now, if the pipelines were not in place because they are having trouble laying it onland, what would happen?

A Again, I would assume they would have to find alternatives for the oil. And the only conceivable alternative is tankers.

Q What would happen if they find a series of small finds in the various areas?

A Well, it doesn't make common sense at all to run pipelines at a million dollars a mile offshore for small finds. Therefore, tankers would be economically the feasible way to do it.

Q Would that increase tanker traffic in the area?

A Yes.

Q If they make a small find in the North Atlantic as compared to the Mid-Atlantic, what effect would that have on traffic in the Mid-Atlantic Region?

A Given no substantial refineries in the New

England area, it would probably come to the Mid-Atlantic refining system.

Q Going back to what you testified before as to the North Sea oil, what effect would that have on tanker traffic?

A Well, the tanker traffic would in all probability increase.

Q How about on finished products? Do you have any comments on how finished products --

A Finished products can be piped out by pipeline. But that is not by any means the only way they go out. They can be barged out. Just look in New York harbor and see barges moving about the harbor on any day. They can be taken out in tankers by tow. But certainly by some tanker finished product.

Q Giving that, Doctor, do you have any comments as to the adequacy of the way the impact statement dealt with the question of tankers as opposed to pipelines?

A I think it was inadequate.

Q Now, one of the things you mentioned very early in your testimony was this synergistic happening impact of things. Do you have any comment on the adequacy of the environmental impact statement of what we have called here those synergistic impacts?

Q Did they talk about the interaction of all the things that we have talked about today like all of this group of things that use land at the same time?

A No.

Q What would you say as to the adequacy or inadequacy of the impact statement's handling of those areas?

A Clearly inadequate.

Q Doctor, another thing you mentioned was cumulative impact. Now, do you have any comment to make about how the environmental impact statement dealt with the cumulative impact? First of all, what are they, and then how are they dealt with in the impact statement?

A The cumulative impacts are impacts that stem from further lease sales in the Mid-Atlantic and the North Atlantic and South Atlantic area. And they, to the best of my recollection, said they couldn't predict much about those; that the -- at the present time, since the lease sales did not take place, and really they didn't discuss them any further. They made some comments about the fact that there would be cumulative impacts.

Q Doctor, are you opposed to drilling for oil on the outer continental shelf off the Jersey coast or Mid-Atlantic area?

A No. By no means.

Q What is your feeling about what you want done?

A What I would like to see done is the environmental impact statement properly include all of those impacts which they clearly omitted which are important and very possible consequences of finding of all oil and gas offshore. I -- again, I think that a series of mitigating actions which also were not discussed in the impact statement might be put into place. I think there are a whole range of things. What the impact statement talks about in terms of mitigation, largely describing governmental institutions and their programs, saying there is a program in the Corps of Engineers that has the responsibility for -- a permanent program for structures in navigable waterways, for example, and leave it at that, and assume all of these programs were functional and mitigation would come about because of it. What they didn't discuss was really what goes on in these programs and how well it does. What they didn't discuss was the nature of the program, their components, how effective they are, and the kind of things that might be added to those programs.

For example, there might be provisions for a pause in the sequence of development after the exploration stage. Not necessarily a separation of exploration from development, but just a pause to appraise the findings and

allow formation of broad strategies for coping with the onshore impacts, and giving people time to decide how things are going to develop and how they are to cope with them.

I think they might well have said that once you require pipeline transportation -- not that it should be where it is economically and psychologically feasible, but it ought to be required, period. I think they might have said that a program for acquiring sites -- site acquisition facilities would be undertaken in the coastal zone and perhaps requiring common development of those sites by all companies rather than independent development by one for each company that is engaged in offshore development.

They might also have required that interrelated activity grouped together on the same site. For example, the Energy Park Council might have used -- and I think it's appropriate in light of the CEQ guidelines of 1973 which state that attention should be paid to energy conservation in writing of a proper impact statement. The only attention that is paid in this statement is, first of all, on the broad level outside of the whole program and it is designed to improve the energy picture, which is not the same as energy conservation. And then a general discussion of energy conservation as applied to home heating and insulation and that sort of thing.

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They could have said instead, why don't you make the facilities themselves reflect the desires -- obvious desires of the CEQ for energy conservation by putting them together in interrelated groups. The so-called Energy Park Council. And they might have -- might well have said that people could post damage bonds, or the development companies could post damage bonds to cover the cost of damaging roads.

One of the real problems of developing oil in lightly populated areas like Northhampton County, Virginia, or Cape May County in New Jersey, is the inadequacy of the road system. It is not designed to carry heavy traffic. Those roads get damaged whenever you -- you're trailing pieces of heavy steel to build platforms or the pipelines. Somebody has got to pay for the repair of those roads. They could post damage bonds to cover that cost.

They could have said they would provide planners with assistance in drawing up guidelines for the development control, suggesting priority development and conservation areas. They could even have used some of the federal guidelines. They could have helped this program on the 208 section for the regional water treatment planning. The coastal management act, clean air, clean water act, and they could have encouraged the training of planners, and made provisions for workshops and seminars and other ways of

training planners in the special problems of the oil industry.

Most planners know very little about oil and gas and how they work. I am talking about land use plans. They simply don't know what to expect. They depend upon the information they are given from the oil companies. And that information tends to come too late for them to do anything about it. And they don't even understand what it is they have got when they are given the information.

Q What happened in Scotland?

A The planning system, particularly at the local and the regional levels, grounded to a halt. People were running around making these hasty decisions in the allocation of resources.

Q Do you have any more of these things that could have been done to mitigate that kind of thing?

A Yes. I think, for example, they could have required rehabilitation of -- or exhaust sites like the platform construction sites. What are you going to do ten years hence if the platform building stops and you've got this 2,000-acre facility sitting in the Northhampton County? The land is not being used to purchase platforms for the offshore area with the town built around it. What are you going to do with that land? Are you going to have secondary use to pick up the pieces after the oil industry moves out? And it does

bust out. I think this is the kind of thing that should have gone to the statement of mitigating factors and alternatives. I think with those factors involved, with the range of impact indicated and with the mitigation in place, the decision to lease at this time might have been different from that which it presently seems to be. And people in the area will be informed -- the public would have been informed and would know what to expect when oil comes on shore and they might indeed have gotten together and exerted some pressure on their local government representatives to get some changes, to get the planning and management system effectively working.

As it stands right now, in all likelihood, if there is significant gas and oil development, it would be on a catch-as-catch-can basis. Let's do what we have to do now. Let's get these facilities in place.

And I am by no means saying that there should not be oil exploration. But I say to do it right and with the best experts you have available to you to do it in a considered way. Don't do it in a rash, hasty kind of way because you're going to live to regret it.

Q One final question, Doctor: Taking what you have just said, was that done in the impact statement?

A No.

MR. KAUFMAN: I have no further questions.

Thank you very much.

THE COURT: Any further direct questioning by Plaintiffs?

CROSS-EXAMINATION

BY MR. LIKE:

Q If the New Jersey beaches were disabled by an oil spill, do you have any opinion as to whether that would exert any pressure, regional pressures on other coastal areas, beaches, such as those of Long Island?

A It's definitely conceivable that people would move from New Jersey. They would -- as the case with Long Island, sewage sludge, spill, and people who are going to come to Long Island began to cancel their reservations and their leases on homes and began to look elsewhere. And this kind of thing carries long after the problem is cleared up. People remember what the problem is. Yes, people are likely to go elsewhere, indeed.

Q Did you find any assessment in the environmental impact as to the additional burdens or pressures that might be imposed on other recreational areas should the New Jersey recreational area be unavailable due to an oil spill?

A No.

Q You alluded previously to the desirability of -- as you described it, as a pause between exploration and

development. Would you elaborate somewhat more upon that? And do you have any opinion with respect to the desirability of the separation of exploration and production?

A Well, what I am -- what I meant by the pause was the period of time sufficient for the planners on shore to appraise what results have come out of the exploration phase, to see where the producing wells were likely to be located offshore, to apply some principles, some criteria to tell what on shore areas were going to be affected, and then in placing necessary programs to cope with those effects on shore. This will require some period of time. I am not sure how long it would require, but it would require time.

The second part of your question -- I am sorry. Can you ask the second part? I have forgotten it.

Q The advantages, as you perceive them, of the separation of exploration and production.

A Well, I can see where separation most certainly -- certainly would achieve the same kind of result and perhaps in a more permanent fashion. I can also see where separation might well create great confusion within the oil industry in that investments made to explore might well be lost if the development section of the sequence was opened up de novo and everyone bid for development rights. I understand that problem. I don't think it's an

insurmountable problem. I am sure there can be provisions written into a separation which would guarantee options to the people who did the exploration, that they could carry on with the development later. It is not necessarily, fundamentally a different thing. It's a little more complicated. I would be happy enough with a pause personally. But there are advantages and disadvantages.

Q Did you find in the environmental statement what you regard as an adequate assessment of the desirability of a pause between exploration and development?

A No.

MR. HYMAN: Objection. An environmental statement is not a legal statement. We have been over this before. The law does not provide a lease for exploration and a lease for development.

THE COURT: Overruled.

Q Are you familiar with the status of New Jersey coastal management planning?

A Yes.

Q Can you tell us what that is at the present time?

A They are presently in the process of developing a coastal zone management plan following along from the 1972 coastal management act, I believe by September of this year.

They are required to have a series of alternative plans presented to the Governor of the State of New Jersey, and he will make some selections during the subsequent year of the alternative that best seems to fit the State of New Jersey. They are doing this very much in response to the federal government's requirement that asks them to move along with this process, even though in other states extensions have been granted to the States, say, six months or a year to continue developing their program. I think that they would very much like to be able to develop a coastal zoning management in the light of the accurate information about offshore development. Otherwise, it's going to be sort of a white elephant if they get information about oil development after the program had been structured. That's going to hurt the development, I would think, because it would force some of that development into postures which they won't like to adopt. But it's also going to exert pressure on the plan, the coastal plan, and distort it. So they are moving along.

(continued next page)

Q In your opinion, does the environmental impact statement give the State of New Jersey sufficient information to plan intelligently with regard to its coastal zoning management?

A No. By no means.

Q Can you be more specific as to what is lacking that would become an input or should become an input to the state coastal planning management for New Jersey?

A The most glaring example is the refusal of the impact statement to consider the locational aspects of onshore development, preferring to adopt both the posture of treating impact in a generic way which does not approach the problem of where will these generic influences finally end up on the shore. And I think that that kind of information -- not necessarily the specific information that they will go in town and ship at such-and-such a location. It isn't necessary for that to be that specific. But a more general description of what areas are likely to be affected, what are the high priority development areas and what happens. That kind of information would be very valuable to the state. Also information about the timing of development. That information will be difficult to get until the strikes are made and if they are made offshore. And when that information is available -- and certainly they would want that to help

them with their management program.

MR. LIKE: Thank you, sir.

THE COURT: I don't understand, Doctor. How is the coastal management plan going to go forward until you know how much oil is going to be available and where?

THE WITNESS: Well, that's an interesting question. Because the Office of Coastal Management in Washington requires that the coastal management program move along. It is given certain guidelines that are supposed to be adhered to and the plans are supposed to be produced. And there is pressure to get these plans enacted. But it makes no sense whatsoever to push them ahead until such time as you have accurate information. And that information is not presently forthcoming. And it may well be that it ends up hurting both the goals that the coastal management act was designed to satisfy and the oil industry goals or the energy industry goals. It makes no sense at all. I think to do what is being done at the present time --

THE COURT: So you participated in the drafting of this plan?

THE WITNESS: Sir, I am sorry?

THE COURT: Are you participating in the draft?

THE WITNESS: Draft of the New Jersey plan? No, not directly. I am not. I am -- I talked with people who drafted the plan, but I am not a consultant or I am not employed in any way by them. So I participated in a sense.

THE COURT: You don't know whether they are assuming that the leasing and what their assumptions are with respect to scope and time and the like?

THE WITNESS: No, I don't know what they are assuming. But about leasing decisions, I can't see how they can assume very much that would -- that would have a definite probability of occurring. You would have to wait until the strike is made before that kind of information comes over.

THE COURT: Based on what you say, would it make any sense to explore and produce separately? Do you think -- you testified that to continue them --

THE WITNESS: Yes, there is.

THE COURT: If you explore and hit an oil pocket or whatever they call them -- what do you do? Just tap it and walk away from it?

THE WITNESS: What is normally done, when the exploration rigs find oil, yes, they drive a well and they cap it. And then they -- the platform moves into

position. Well, of course, the order goes in for the platform. The platform eventually moves into position in order to produce that well. When the well is opened and development wells are drilled in support of that main well -- that's the way the field is.

THE COURT: Does it make sense to wait a few years while all of the planners --

THE WITNESS: I would think it would make even more sense if they could wait a considerable period of time.

THE COURT: That's an awful lot of capital tied up in capping wells under those circumstances, isn't there?

THE WITNESS: Yes. There is capital tied up in that. But I think it would be a miscarriage of justice, so to speak, if the onshore detrimental impacts were to go ahead. The losses stemming from those would -- I think would be a good deal greater and they would have to be borne by the public at large, and everybody would have to bear those rather than an industry which is by nature a speculative kind of industry. Oil companies are making their decisions on the basis of what will happen ten years, fifteen years from now. That is part of the risk that they built into their

business. And I don't thinkthat is the kind of risk the public wants to build into its business.

THE COURT: But you certainly reduce the value of the lease possibility of getting substantial income from the lease? That's a question of whether the Federal Government gets the benefit or the State gets a fair burden.

THE WITNESS: Well, I am not sure that the Federal Government is really getting the benefit from the sale of the leases that it might get in any case. It could impose other conditions other than the royalties. The front end bidding system that it has adopted, if it wanted to be sure of getting revenue from the field, although it wouldn't get them immediately, it could adopt the petroleum revenue tax approach in Britain, which is taxed on the basis of production, really. And corporate tax after development. It's much more than putting the emphasis on the large royalties and large bids at the front end. I think it would probably do better if it adopted a different pattern.

I am not suggesting any particular pattern, but there are alternatives available to it if it wants it.

MR. LIKE: May I follow one comment you made as

Q If a State Government does not want a fabrication plant in its state, we can influence that decision?

A Sorry, could you repeat that? Can you say that again?

Q We are talking about fabrication plants and the statement says ultimataly, the State and local controls will determine whether any such facility is located in a given area.

A Yes.

Q We could influence, the federal government could influence, tell the state we want a plant there?

A I didn't say they could demand it or require it.

Q The decision as to facility is a state decision; is that correct?

A The ultimate decision.

Q The ultimate decision. The bottom line.

A Yes.

Q And a decision for housing is a state decision.

A Community decision, also.

Q Okay. Now, I take it you don't disagree with any of the platform fabrication statements on page 230, 231 and 232. There's no misstatement there; you agree with that [illegible] received anybody or in attempting --

MR. KAUFMAN: I suggest the witness be given

A I think what I said was provisions for second re-uses after platform sites were exhausted. I didn't make any reference to specific sites.

Q Well, isn't there in this statement, to the effect that other items could be produced from a facility, including metal tanks, metal storage bins, LNG, and that the economic liability would not necessarily be dependent upon platform fabrication for OCS use; isn't that there?

A That's -- there is something there.

Q That's the kind of statement that you would like to see?

A That's a statement where there might be other uses.

Q Of course. Nobody can look into an envelope and say, "Twenty-five-years"?

A You could require such a use would be implemented. You could, and these certainly are not a --

Q Of course not. But that's a state and county function; is that right?

A The federal government has the duty to indicate where it can, these things it might indicate, the things that must be done.

Q Well, we can say a lot of things. Nobody wants to listen to us, but the bottom line --

MR. KAUFMAN: Move to strike.

THE COURT: Put it in the form of a question.

Q Isn't the bottom line of use that the state and county --

A Isn't -- what do you mean by the "bottom line"?

Q The decision. The last and ultimate decision on how to use the facility; that of the state and county.

A And the person who is --

Q Who owns it.

A Who owns it?

Q The federal government has nothing to do with it.

A It has a lot to do with influencing it. It may not have the ultimate decision.

Q How can we tell people what to do with their own properties?

A I didn't say that.

Q I'm sorry. Let's go on to the next point.

Now, during your direct examination -- oh, by the way, we have got to go back to this business over here, in a sense, if it's possible that the 6,000-acre town is very contingent, at best, depending upon zoning interests, if the plant is built, depending upon if there's no employees, at best somebody else could say that this 6000-acre figure for a town is not necessary; right?

(Whereupon, the Court resumed at 5:05 p.m.) 645

THE COURT: All right, gentlemen. Shall we proceed? The Reporter tells me we can only go to six o'clock. We will convene this case tomorrow at 11:30 in Westbury. I have matters on my calendar until 11:30.

MR. ZEDROSSER: Your Honor, before we continue, may I just make an application? At the conference in this case on June 30th, the Court ruled that the Plaintiffs could not take the deposition of Secretary Kleppe, as they sought, and instead, the defendants were required to submit the letter listing the documents on which Secretary Kleppe relied on in reaching his decision.

We have received a letter dated July 19, 1976 from the Solicitor's Office of the Interior Department listing five documents with the statements when the Secretary made that decision he had the following documents to rely on.

In other words, it's a list of documents that were available, and not a statement of what, if anything, was relied on by the Secretary. And, it's actually this kind of problem that was anticipated when the Plaintiffs sought an action of deposition of

Mr. Kleppe, so that the information could be retained directly, rather than be filtered through a Solicitor, and we have a statement that really doesn't tell us anything.

So we would again renew the request for a deposition of the Secretary.

THE COURT: Well, I will consider it. All right, proceed.

MR. ZEDROSSER: Your Honor, may I just raise one other point, just to put the Court on notice of the timing problem?

Last Thursday we were concluding depositions or continuing on the depositions in Washington of a Mr. Frissel, and Mr. Roiston Hughes. We have obtained accelerated copies of the depositions. The U.S. Attorney should have copies of the concluding sessions of both today.

We expect to put on a further witness for the State of New York, perhaps this Friday, and those depositions would be important for his testimony, and we would ask that either the depositions be signed and returned by then or that the U.S. Attorney stipulate to accept the transcripts as they are without signing.

THE COURT: If there are no corrections by

You know, I sat here very calmly, Judge, while this direct examination took place.

THE COURT: Let's move ahead.

Q Is that correct? There's just not enough information there to satisfy you as a planner; is that correct?

A That's a problem with the statement.

Q But there might be enough information to satisfy the administrator to make a decision?

A How am I to know?

Q How are you to know? Thank you.

A I know what the administrator should have considered.

Q Now, isn't it a fact that the statement covers the impact on fishing, hunting and trapping?

A I don't think I testified to anything about fishing, hunting and trapping.

Q How about the statement that covers the facts that there are regarding the impact on localities? Would you want to turn to page 252 of that statement?

A 252?

Q Yeah.

A It covers a highly inadequate manner.

Q But there's a statement there to the effect

Q Isn't there an indication there that the improper siting of facilities, to wit, the pipelines, might result in the use of up to 250 acres of wetlands or other areas unsuitable for industrial or commercial use?

A Yes, there is such a statement.

Q And isn't there also right before that statement saying that if various requirements set out by law and regulations regarding oil and gas facilities without environmental degradation could be a problem in a particular area, because of an abundance of wetlands along the Coastal Zone?

A It says "Meeting these requirements for oil and gas related facilities without environmental degradation could be a problem in particular areas because of the abundance of wetlands along the Coastal Zone.

Q Is that an indication to you that there might be an environmental problem with laying the pipelines in the wetlands?

A There would be such a problem. It talks about these facilities which, as far as I can tell, refer to the variety of facilities.

Q It talks about the various facilities on page 280, right?

A It says, "These facilities," that may well be the facts on page 280. It may be before that, well into the

possible to put a pipeline along the right-of-way of the road?

Q The railroad.

A It's possible. With difficulty.

Q Now, is it possible to put the pipeline right along the coast of New Jersey, not even touching land, but coming around Cape May and then from Cape May, without getting into the pine barrier, build pipeline up the coast to where the oil refineries are; is that a possibility?

A If you want to bear the one million dollars a mile for laying the pipeline offshore along that route, technically it's possible.

Q Technically it's possible?

A That could be done, also.

Q In fact, it's even possible to build up pipeline into Delaware, isn't it?

A If Delaware would permit it to come on shore. Yes, it's possible.

Q Now, before that pipeline can even be put into the ocean, who owns -- do you know -- the three-mile coastal zone off of the New Jersey coast?

A The STate of New Jersey has jurisdiction over that, I believe.

Q If The State of New Jersey says to the oil companies

"Hey, fellows, don't bring that pipeline here." Can that pipeline go through?

A If they say, don't bring that pipeline here --

Q Yes. "We don't want any pipeline. We have enough pipelines. We let them develop all those pipelines in the North. We don't want any pipelines now."

A Then it will be economically unfeasible to develop that field, using a pipeline that's part of the stipulation No. 4. And, therefore, they would have to go to --

Q But they could go --

A That wouldn't be economically feasible.

Q Let them decide that.

A They may very well.

Q But maybe a million gallons of oil might go up to $30 million a barrel? It could be economically feasible then?

A If they wanted -- if they want to lose money, which I don't think the oil companies want to do, they can go ahead.

Q The proposition is that New Jersey says, "I don't want any pipeline in the three-mile limit. That's my land."

Can the oil company do it?

A If New Jersey denies permission to bring

pipelines ashore, they can't bring them ashore.

Q Right. So the ultimate decision on the pipeline is the State of New Jersey's?

A It is one of the major factors in the decision.

MR. KAUFMAN: May I have that question and answer, please?

(Record read.)

THE WITNESS: Obviously, it is not the only one. Clearly, the oil companies would make the ultimate decision rather than the State of New Jersey in the sense that they would decide to build or transship by tanker.

Q Now, on page 285 of the statement, where they talk about pipelines, isn't it a fact that they say again:

"If placed along existing transportation rights of way such as highway corridors, used or abandoned railroad rights-of-way or other utility corridors, the long-term impact of a pipeline corridor would be minimal."

Is that statement there?

A That statement is there.

Q You disagree with that statement, of course?

A Why do you assume I disagree with it?

Q You disagreed with everything else in the

existing industrial area so that particularly adequate land use controls are enforced, citing these industries should not be a major problem. Does it say that?

A It does say that, yes.

Q Does that indicate to you that all these industries that we have just been talking about, the refinery that you say we need, and the --

A I said perhaps an expansion of a refinery or a refinery --

Q O.K., possible. So you are backing off --

A No, I am not backing off the acreage one little bit. I am just making the point that it would be necessary --

Q But it wouldn't be in the pine barrens? Is that right? That industrial expansion wouldn't be in your pine barrens?

A I don't know how you make that assumption.

Q Well, don't they talk about land use?

A Yes.

Q And at page 288 they say so that particularly adequate land use controls are enforced. Who has -- who enforces land use controls?

A A variety of agencies and organizations and Government administrators, legal.

Q And the Federal Government enforces what land

use control?

A Internally when they refer to federal facilities.

Q How about industrial land use control in the State of New Jersey? Who has control?

A The State of New Jersey.

Q So if the State of New Jersey enforced their own land use controls, you're fearful further impact on the Pine Barrens is a phantom issue, is that correct?

A No, it is not a phantom issue. They say absolutely nothing about where they were going to occur as far as I can tell. They say that they are not at all locationally specific. Expansion does not mean expansion right beside an existing facility.

Q Are you telling me the State of New Jersey allows in their Pine Barrens an industrial development?

A There is a very weak Pine Barrens environmental council which has very few regulatory powers. Its sole power in fact is again delay applications for development for 90 days. Otherwise local zoning, which is very inadequate, affects everything apart from state-owned facilities marked in green (indicating).

Q Is this heavily industrial area now?

A At the present time, no.

Q So apparently the land use controls have been

effective in this area?

A No. There has been a long history of battles over the use of the Pine Barrens. The last recent one being an issue of whether they should put a jet port to New York City in the middle of the Pine Barrens, and the controversy went on from about 1964 to 1969 and was carried through a variety of court administrative hearings. One of the major issues was that controls are not sufficient to prevent widespread development of the Pine Barrens. It is very weakly protected.

THE COURT: I am sorry but we have to break. The reporters said six o'clock.

We will convene again tomorrow. I am sorry, Doctor, but I will have to ask you to come out to Westbury tomorrow.

THE WITNESS: I will get directions yet.

THE COURT: Yes, somebody will give them to you. It will be at 11:30.

MR. LAFITTE: Your Honor, we do have a copy of the bill. I presently only have two copies. understand that the Government has arranged for more copies tomorrow morning. But we just have this --

THE COURT: Well, if you can let me have a copy so I can look at it overnight, I would appreciate

MR. JENSEN: We'll be willing to submit that. I think there was confusion in the Court's mind yesterday between this bill and other bills which were building -- which could amend the outer continental land act itself. In order to set the various legislation straight, status of the various bills, we'll submit a supplemental memorandum on that problem.

THE COURT: It probably would be useful. What's in my mind particularly is Section 6 of the bill and other provisions, as I have read them overnight, without having the benefit of counsel's briefing, and without having the benefit of the full legislative history, indicates a desire to have a coordination between individual states in the federal government, and among the various states because it calls for possibilities of compact. If for example the states are considering presenting the landing of any pipelines, and this will be a part of their zoning and a part of their program, and all of these states are just -- this is a hypothetical -- to indicate the problem, all of the states say no pipelines may be landed, then they are going to have to go to tankers and the effect on pollution may be substantial, which may

require reconsideration of the whole problem of the effect on the environment, I don't know, but I'm concerned about it because there does seem to be some relationship. We have had testimony from a witness yesterday that in Scotland under similar circumstances there was a great deal of wastage and a good deal of problems because localities were not coordinated and didn't plan. The point, as I see it of this legislation, is to enhance planning to avoid the kind of fiasco that the witness indicates took place in Scotland, that being so, I'm just not sure of the impact on these proposed leases. If we were dealing with leases that separated exploration and production it wouldn't make much difference, they could go forward with the exploration and the planning at the state level.

As I understand the leases, they permit the production. If production is desired by the lessees there may be a problem.

I must confess I don't know, but these are the questions, or some of the questions that bothered me last night and early this morning while I was reading a copy that Covington was kind enough to let me have last evening.

flow?

A Is going to flow? You want an estimation?

Q Without the platform in existence, presently in existence?

A I don't understand the question.

Q You understood your lawyer's question yesterday when he asked you how soon can development --

THE COURT: Don't argue with the witness, ask him anotherquestion.he can understand.

Q How long can development occur, the actual flow of the oil occur from exploration?

A A case -

Q Without platforms readily available?

A A case with which I am familiar indicates that oil can be taken ashore within three years from the discovery.

Q So three years would be the time lag; is that correct?

A It would be shorter, depending how quickly various facilities -- and the point about it is that the time lag until the oil flows is not necessarily the only critical time lag; once the oil is discovered the decisions that have to put the facilities are already beginning to be made, and the decisions are not subject to revocation very

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easily.

Q Now, what is your concern about I think once oil is discovered, if it's discovered, that the states be given an opportunity to determine what the development plan is going to be?

A Large number of concerns.

Q Is that one of your concerns, Doctor?

A Yes, it's one of my concerns.

Q And you read the EIS statement; is that correct?

A I'm aware of a statement.

Q Did you see proposed order number 15 in the statement?

A I would have read it.

Q Do you remember it?

A If you have a section I'll read it.

Q Are you familiar with that portion of the statement that says there shall be no development in the area until the company develop a development plan and a [illegible] plan is going to be submitted to the states, the correct number for their consideration and approval?

[illegible] you indicate where that is in the [illegible]?

[illegible]

Q Doesn't it also say thatthisinformation may be submitted simultaneously to the states with the former developer plans; the information they need to develop and any other plans that they might have indicated earlier they might submit to the states?

A It says this information may be submitted simultaneously to the states with former development plans. I don't know about the other things you say.

Q Now, the states are going to have development plans, is that part of the EIS; it might not be sufficient for your purpose, but they are going to have development plans; is that correct?

A That the development plans will be submitted to the states.

Q And if the states want more information?

A Does it say in that --

Q Let's assume --

A The point is that there is no assumption.

Q Who has control over the on-shore development in New Jersey facilities, on-shore.

A The on-shore development, the State of New Jersey can be influenced considerably in its decisions --

MR. JAYMAN: Your Honor, I request that this witness answer the question, not if they could be

considered influenced. The question is a legal or a planning question, who has control of the development on-shore in New Jersey.

THE COURT: He's answering, I take it it can't be answered with a single word. He's trying to help you. I'll take his answer.

THE WITNESS: Thank you. The situation that I was going to describe illustrates the complexities -

Q I didn't ask for a situation on complexities. I asked a simple question, and I'm entitled to an answer who has control. I don't want an example. I just want an answer to the question.

THE COURT: He's giving you an answer, it's a complex answer to a simple question. He may proceed.

A The situation that I was going to detail pertains to the Santa Barbara site in California where the state has a similar problem to the one raised by -- I'm afraid I forget his name -- the situation there is such that although one might presume that the state through the California Coastal Commission would have the ultimate responsibility to control development, in a specific interest in developing a facility proposed by the Exxon Oil Corporation, where the Coastal Commission made a judgment as to the type of procedure that should be adopted in regard to that

facility, the secretary of the Interior or one of his close advisors or one of his close advisors dispatched a telegram which is in the public records of the California Coastal Commission, to the effect if they did not permit Exxon Oil Company to develop the facility, that they wanted on shore, that the federal government which had jurisdiction over the area beyond the 3-mile limit would permit them to emplace what was generally considered to be a much more damaging facility; and it seems to me that this is a very reasonable example of the kind of things that happen when you are asking the question who has ultimate responsibility, who has control. In effect, this is an illustration that the federal government under certain circumstances has the ultimate responsibility, the ultimate control. I'm sorry I do not have the telegram available. I can get it if need be. I have checked with the City Attorney of the City of Santa Barbara and this is the case, in fact one cannot say very simply that the state has the ultimate control.

(Continued next page.)

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In effect, this is an illustration that the Federal Government, can under certain circumstances, have the ultimate responsibility, the ultimate control.

I'm sorry I do not have the telegram available but I can get it if need be. I have checked with the City Attorney of the City of Santa Barbara and this is the case, so that in fact one cannot say very simply that the State has the ultimate control.

BY MR. HYMAN:

Q Dr. Mitchell, my question is not of shore facilities, not facilities outside the three-mile limit, my question to you, Doctor, is who has control of on-shore facilities within the State of New Jersey.

A The point that I was illustrating is that this particular facility could have been either on-shore or off-shore, and that's what the -- the judgment was about, whether it should go on-shore and what it should be or whether it should be off-shore, so that in fact the Federal Government was about to influence what went on shore.

Q Doctor --

A -- I can --

Q I didn't ask you who can implement decisions, a lot of people can influence decisions.

Would you concede voters can influence decisions?

A Yes.

Q Politicians can influence decisions?

A I'm sure they can.

Q Citizens may influence decisions?

A The point at issue in this instance, the Federal Government appears to have influenced the decision.

Q Okay, wipe your mind clea like a blackboard.

A I can't.

Q Forget California.

A No, because I think it's extremely pertinent to this issue.

Q Can you answer the question in New Jersey, a very simple question, I don't want to argue with you.

Only with the qualification that I --

Q Forget the qualifications.

Is there any off-shore facility suggested for New Jersey at the present time?

A I can't answer the question in the way that you put it and you're posing the kinds of choice that you are asking me to make.

Q Okay, let's assume a builder in New Jersey wants to put up multiple-dwellings on zoning that require one acre, but he's going to vary on his own and put up the multiple-dwellings in a zoning of a quarter of an acre.

Would he be able to do that in New Jersey?

A Your Honor, --

MR. KAUFMAN: I object to the question, your Honor. At this point I think counsel is wandering very far afield.

I think the witness has answered at this point and counsel has gotten an answer.

MR. HYMAN: I am entitled to an answer, your Honor.

MR. KAUFMAN: I think the question is totally irrelevant.

THE COURT: Don't answer

MR. HYMAN: Not for this question.

THE COURT: Don't answer.

THE WITNESS: I'm not primed to answer that particular kind of question.

THE COURT: You can say you don't know if you don't.

THE WITNESS: Yes.

BY MR. HYMAN:

Q How about facilities which want to be placed in areas that are zoned residential, but it's going to be a commercial building, can the proposed builder or owner do that in New Jersey?

MR. KAUFMAN: Same objection.

I must object.

THE COURT: Overruled.

The witness can say he doesn't know. His credibility is being attacked, as I understand it.

Proceed.

THE WITNESS: I feel that no -- no person without an understanding of the specific decision that was being made would be wise to make any general conclusions to a statement as broad and open-ended as the one that I'm being asked to respond to.

I don't know what the exceptions may be.

Q Let's do it this way:

Does NewJersey have a wetlands act?

A Yes.

Q And is it concerned with development of the wetlands?

A I believe it does, yes.

Q And can you put an industrial complex in a wetlands area without necessary permits from the State Authority?

A No.

Q So the ultimate responsibility as to how the wetlands will be developed if developed at all, would be the State of New Jersey?

A Again I -- it depends on what the development is, it depends on the situation.

Q The biggest, most innocuous type of industrial facility, that's what we propose to put up there?

A Yes, but --

Q Can we do it without the consent of the State of New Jersey?

A The point is if there is an alternative [illegible] the three-mile limit, as in the case of this gas separation treatment plant in California, that could well be the facility that you are talking about -- then the Federal Government has got a right or an ability, not necessarily a right -- to have some input into that decision and can and has done it in the case in San Francisco that I quoted.

I would really have to have the specifics, I can't have hypotheticals.

I'm telling about is wetlands specific enough, do you [illegible] a wetland is?

[illegible], that's the kind of facility, where are [illegible]

[illegible] is not going [illegible]

[illegible] of New Jersey versus [illegible]

[illegible] wetlands of

New Jersey.

Q Whatever they have in the wetlands of New Jersey.

A Well, if you don't know what they have in the wetlands of New Jersey.

Q Do they have snakes, frogs, mosquitoes?

A Yes.

Q Okay, we're going to ruin all that in this proposal.

Who would have the authority to say no, or yes?

A Well, it seems to me if you are going to ruin it that would have come out in the environmental impact statement process, and that presumpably some mitigating measures would have been included to offset it.

Q Okay, we'll start from A.

Doctor, isn't it true that any development in the State of New Jersey is controlled by the state authorities or the County authorities?

A No, it's not necessarily true.

Q Don't they have zoning?

A No, it's not necessarily true at all.

Q Do they have zoning ordinances in New Jersey?

A Yes.

Q Do they have development commissions in New

Jersey?

A Yes.

Q And they have road commissions in New Jersey?

A Yes.

Q And all those things take community or state action for approval; is that correct?

A They take varying kinds of -- of action.

Sometimes it may be community, sometimes state, sometimes otherwise Federal.

Q Okay, but the point it isn't it a fact that the commercial -- commercial development in the State of New Jersey is ultimately the responsibility of the state and the communities in which the proposed develcpments are going to be; is that a fact or not?

A I have quoted the kind of example that there areexceptions to that rule.

Q Let's assume that you say there is an exceptio to that rule.

Let's talk about the rule and not the exceptio Is it generally true?

A I'm concerned about the kinds of things that may occur in the coastal zone and they are the source of things that may well be affected by those exceptions.

Q We're talking is it generally true?

Mr. Like is worried about his witness. Is it generally true, the statement that I just said, sir?

A Over the majority of the lands of the state it may be true, but not necessarily in those lands that are going to be affected by this particular proposal and those are the ones that I think are important to consider.

Q You're a planner, aren't you?

A I have a degree in planning. I am a geographer by trade.

Q And did you study zoning in any course -- in any of the courses that you got your degree in?

A Yes.

Q And you know what zonings are?

A Yes.

Q And who enacts zoning provisions?

A Local zoning authorities, local comm-nities usually.

Q And they have control over -- of the zoning in their respective communities; is that correct?

A It depends what you mean by control.

Q They have the final decision to make as to the zoning aspects.

A The kind -- it depends upon the kind of decision. If it's a decision where in effect the real

authority lies elsewhere then that's who makes the decision in effect.

Q You mentioned something about a -- about proposals to put an airport in the Pine Barrens; is that correct?

A Not in relation to --

Q No, that proposal didn't go through; is that correct?

A No, it didn't.

Q And how did it stop, what happened?

A A very long series of litigation, public hearings, pressures by various people.

Q Stopped it, right?

A Yes, eventually.

Q And in order to propose the airport or do anything, did they have to get zoning variances?

A I'm not familiar with the case in detail to be able to answer those questions.

Q And so it's your testimony that even though development plans must be submitted to the states prior to development, that the states have no control as to what's going to be on-shore; is that correct, is that your testimony?

A Whatdo you mean by control?

Q No, say in what's going to be there?

A There is a great deal of difference between say and control.

Q How about say, they are going to have no input into the development of the facilities?

A Is that input going to be reflected in any changes in the development plan?

Q Well, are you familiar with the Coastal Zoning Management Act?

A Yes.

Q And are you familiar with the purpose of that act?

A If you have a copy of it, I could -- I would like to read it.

Q No, I don't have a copy. When did you read it last?

A Oh, perhaps a year ago.

Q And isn't the purpose of that Act to determine what's to be developed, if anything, in the wetlands and what's to be developed on the coast, not specific proposals, but what kind of activities will take place?

A Well, it seems to me when I read one of the sections that pertained -- I haven't read the full act for a while -- I have read -- I have read it.

to support the additional refining capacity of the area.

Q Did you call up the various refineries in the area to find out what their capacities are, did you speak to anybody that manages, write to them?

A No, no. That information is available in other places.

Q Did you do that?

A Did I call them up? No, I didn't, no.

Q And did you speak to anybody to see what the results might have been if import oil was -- offshore oil would be substituted for imported oil?

A But it says in fact that that will not be the case for certain kinds of oil, including -- including the asphaltic crude. It cannot be. And the other factors that I cited indicated that there will be additional supplies, in all likelihood.

Q But you didn't call anybody up to find out what their capacities are?

A Well, it's published annually in the Oil & Gas Journal, the refining capacities.

Q Did you look them up?

A Yes, I looked them up at some time.

Q And what did youfind?

A I'd like to have the figures in front of me to

describe them in detail, but as I remember it, refineries were operating close to capacity at the present time.

Q Close to?

A Well, they're -- their barrels per day were close to their stream day barrel figures, in the 90 percent range.

Q So they had a 10 percent --

A Well, no refinery can operate at 100 percent capacity, there has to be down time for maintenance and turnaround, and that's why there is some difference between barrels per day -- per calendar day and per stream day figures.

Q But they could expand their capacity, couldn't they, without increasing plant facilities?

A I find it very hard to believe that they wouldn't have to increase the plant facilities to expand capacity when they are operating at a range which is close to capacity, and it does require, according to the National Petroleum Council, three to six years to bring on line a major petroleum processing facility. They too have to be purpose-built, they have to be planned. It required time. If you are going to have that time available the likelihood is you may consider building a separate refinery rather than using your existing refinery.

that the Pine --

A No, they don't, they don't.

Q And that along that line there might be --

A Yes, but --

Q -- three feet to put a pipeline in and preserve the Pine Barrens.

A There might be three feet to put a pipeline.

Q Yes.

Q Well, I think it says that you need a fifty-foot wide strip to begin with.

Q It doesn't use a fifty-foot wide strip does it?

A It says we'll have to maintain a fifty-foot wide strip clean and free of any kind of interruption, so therefore it presumes a fifty-foot wide strip is committed to a pipeline.

Q Along the edge, can we go fifty feet from the edge of the Pine Barrens and bring the pipeline into where the existing pipelines are and pipe it up into the refinery?

A [illegible] an extremely long pipeline --

[illegible] preserve the environment.

[illegible] if the route of the [illegible] all other pipelines through is

around the Pine Barrens, is that a possibility?

A These are the factors that aren't brought out in the impact statement.

Q Well, we don't know --

A What the alternatives are, where to run the pipelines. It doesn't discuss where to run the pipelines.

Q How do you know where to run a pipeline if you don't even know if you're going to have a pipeline?

A The point is it is the responsibility of the people writing the impact statement to present the range of case, the alternatives, to present the likely possibilities if strikes of varying magnitude are actually made.

That's not done.

Q Didn't they discuss pipelines for four counties in New Jersey?

A They indicated where the terminals are on the pipelines and that's the kind of information I have used to make a conservative estimate of where the 1800 acres are required.

They do not say precisely where they are going to go because that would have involved them in the [illegible] where they are going to get land, how they are going to [illegible] ecologically sensitive communities,

BY MR. HYMAN:

leG/ss 3/1

Q They would have to apply with the state law?

A This is a hypothetical question about the three mile limit.

Q They would have to apply the state law; is that correct?

A But we were not talking about the state drilling; we are talking about the federal government drilling offshore.

Q The state has their own law in the three mile limit?

A The state has jurisdiction over sea beds up to the three mile limit.

Q Does the state have jurisdiction of the wetlands and the Pine Barrens and the land in the state of New Jersey?

A It has certain kinds of jurisdiction but there are many others that have jurisdiction, and jurisdiction can be influenced by those other groups including the federal government.

Q Doctor, yesterday you testified thatthe statement is inadequate as it does not indicate the amount of increase in petrochemical plans and other economic sectors; did you say that?

A If that's in the record, I said that.

Q Look at Volume 2, Page 238, first paragraph.

zone, and it says in the statement that the BLM has no direct authority on-shore?

A The BLM is required to project the best impact it can. It did not. It's immaterial what the State of New Jersey did in relation to this point.

The BLM's responsibility is to project the impact statement, not the State of New Jersey.

Q Are you a lawyer, sir?

A I know that they have been given the responsibility to prepare this impact statement.

Q Sir, it requires a simple yes or no, are you a lawyer?

A I'm not a lawyer.

Q Are you a judge?

A No, I'm not.

Q Are you a congressman?

A No, I'm not a congressman.

Q Are you a senator?

A No, I'm not a lot of things.

Q Are you a lawmaker of any fashion?

A No, I'm not, but I have studied the law inasmuch as it pertains to land use decisions.

Q Well, if you studied the law as it pertains to land use decisions maybe you can answer the question I asked, the first one this morning:

Who has the authority in the State of New Jersey to make the final decision concerning land use decisions?

MR. KAUFMAN: Your Honor, again I must object to this line of questioning.

THE COURT: Sustained.

MR. KAUFMAN: We have been through it.

Q Now, yesterday when you testified about land use and the amount of land that has to be used for gas processing plants, you said that the requirements contained in the statement were underestimated.

A Were underestimated, yes, that's correct.

Q I ask you to look at volume two, page 280?

A Yes.

Q To the footnote contained there.

A Yes.

Q And what does that footnote say?

A Which footnote are you referring to, the first or the second footnote?

Q The first.

A The first footnote, okay.

Q Would you please read that?

A Yes, it says "Derived from an information from the off-shore operators committee and industry association with the exception of acreage requirement for

Q Now, you said I think that you had no great contact or inputs to the coastal zone management people.

A I said that I talked with them. In what respect are you talking about?

Q Well, you're not a consultant to the coastal zone management group.

A Where, in the State of New Jersey?

Q Yes, or any state.

A I'm under contract to the Office of Coastal Zoning -- Coastal Zone Management in Washington to prepare our National Handbook on Natural Hazards of the National Coastal Zone Management Program.

Q But the everyday running of the planning in New Jersey, do they listen to you?

A The everyday running, no.

Q You don't know the -- you don't know what they have under consideration or what they are thinking about or what they are doing; is that correct?

A I have some idea of what they are thinking about and what they are doing.

Q But officially you are not part of that?

A I'm officially not part of it.

Q And you also indicated that New Jersey has [illegible] dealing with the coastal zone

management; is that -- is that correct?

A They have indeed.

Q And that was pursuant to the Federal Coastal Zone Management Act?

A No, they preceded the Federal Coastal Zone. In fact, they were some of the earliest in the nation in anticipating it.

Q Are they cooperating under the Federal Act, taking advantage?

A What do you mean by cooperating?

Q Are they taking advantage of the Federal Act?

A What do you mean by taking advantage? Are they receiving money?

Q Yes, are they presently receiving planning money?

A They are receiving planning money. They are proposing a plan.

Q Well, if they are going to -- if they are getting money to prepare a plan what good would a Federal plan be?

They are getting the money to prepare a plan, aren't they?

A They are to prepare a coastal zone management

plan, yes.

Q Using Federal funds, right?

A I think the Federal funding requirement presumes that there are matching requirements from the state as well.

It's not solely Federal funds.

Q They are using State funds and Federal funds, a fair statement?

A They are using them to prepare a coastal zone management plan, yes.

Q But yet you think that this statement should also -- also should prepare a coastal zone management plan for all the states?

A No, let me explain.

The fact is that they are under very tight deadlines to prepare that plan as I indicated yesterday, and they are supposed to have the plans, the alternatives ready by September, and there is supposed to be a decision by the following September and by that time we won't have the kind of information that is necessary relating to on-shore development to put into that plan, therefore that plan will in all probability become perverted by --

Q We'll send them a copy of your testimony

A I believe so.

Q Why did they publish yours and not 50, 100 or 200 people who wrote similar letters that were notpublished, but just acknowledged receipt of your letter?

A I suspect because it was written by someone in the effected state, out of state institution. They want to have representation from people who have some institutional -- if you look down a little, it's usually governmental or major private groups of sorts. They don't publish individual letters to my knowledge.

Q But they published yours. This is not an official letter from the institution?

A I didn't say it was an official letter from the institution. Isaid it reflects the concerns of an institution in the state of New Jersey, the kind of things that they would say we have to have; somebody from the state of New Jersey says something in here to show that we took cognizance of the state of New Jersey outside of the government.

Q You think they published your letter for window dressing?

A I'm not saying why they published the letter. It's there, they didn't take account of thatpiece of information and use it in the rest of thedocument.

Q The statement contained in your letter on page 359, you state that you realized that the production of the draft is a monumental task?

A I didn't state that. Page 259, let me check the letter -- yes, I see, it says something about a monumental task.

Q And would probably always fall short in some aspects?

A That's what it says.

Q Do you adopt that statement?

A Howard Hughes built surplus pools -- monumental mentality doesn't imply anything in particular about the goodness or badness of the particular item.

Q Doctor, my question is, do you adopt that statement?

A I adopt that statement, that the statement will always fall short, I take the point of view the statement should be as good as it possibly can be given the information available to put it together. If it falls short of that requirement I think it's an inadequate statement, it falls short of that requirement.

Q I'll put it to you again. Your letter in which your name appears states "although we realize that the production of the" draft is a monumental task that will

probably always fall short in some aspects. We feel obligated to point out that the present versions has inadequacies that require research effort.

MR. KAUFMAN: This is the fourth time in the last few days that's been referred to by counsel, and the question has been asked and answered by the witness three times before I object to it.

THE COURT: Answer it yes or no or say I can't answer it in the form.

A I can't answer it in the form you put it to me.

THE COURT: Next question.

Try and answer questions if you will and we'll move ahead.

Q On pages 360 of your letter, you state refineries must comply --

A I didn't contribute that particular statement to the letter but it is there.

Q And then you go on and you state on page 361 "We applaude the identification of 25 bay and 17 ocean supplying stations and see theinformation collected as of the beginning of the necessary data base that will establish the water quality requirement for fish and shellfish" -- is that statement there?

A Yes.

Q And what did you mean by data base?

A I didn't supply that information, did I?

Q What is a data base?

A I didn't read the statement.

Q Then you go on to say "There will have to be a number of similar programs created before we can effectively deal with the problems of on-shore impact in a quantitative sense". Is that correct?

A That's what the statement says.

Q Didn't you write that part of the letter?

A No; but I'm not adverse to the sentiments expressed in it.

Q Well, wouldn't the data base for on-shore impact be the development programs that would be submitted to the state?

A There is data available prior to development programs; here it is.

Q That's your data --

A Oh no, that is drawn from a variety of national sources.

Q Your letter goes on on Page 362 and said "Such development" -- you were talking about platform building and so on and so forth -- 'are labor intensive and could well generate several thousand jobs" even without the addition of

a new oil refinery?

A It doesn't say it quite that way.

Q I'm not finished. The platform and pipeline industry could supply through the multiplier enough regional employment to at least double the BLM estimate to 15,000, 400 new jobs?

A I agree with that, yes, I agree with that.

Q And you do say, is it not true, that close inspection of the tables contained -- you don't say it that way but you refer to tables contained in the EIS, and you say -- "indicates that the estimate demand for land acreage given in the statements are considerably too low" and then you say"the estimates are somewhat misleading" -- is that correct?

A Yes.

Q And then you give a figure perhaps totaling with the pipeline and the platform construction, you give a figure of 1,000 acreage, at least 1,000 acres.

A When I wrote this up I didn't sit down and calculate all these figures. I said basedupon the inforuation that I knew was available, there is so many hundred acres to this, that, and the other thing. Okay, let's take it, it's going to be at least a thousand acres, it will probably be a lot more but I don't have the time --

Q When you wrote the letter and youmade your calculation of at least a thousand acres, you were talking at least of 1,000 acres more than the 2,000, 395 acres that you put down here, isn't that correct?

A Let's read it and see. At least 1,000 acres.

Q And you concede that the statement has in it this reference to the 2,000 acres to the pipe coating plan?

A It's not reflected in the acreage figures. It has a reference to it.

Q It has a reference to it.

A Then it goes on to say that it won't happen.

Q Doctor, does the statement have a reference to this 2,000 acres?

MR. PICCIANO: This question has been asked and answered at least a half dozen times over the last two days.

THE COURT: Sustained.

Q Now, if you took this 2,000 acres that's referred to in the statement and added it on to this 2,000, 395 acres, what would be the total in the EIS?

A 4,395.

Q Wouldn't that be 1,000 acres more than you said in your letter that's needed, that's missing.

A You have to add the land for the town.

Q Just answer the question.

A If you're going to ask me if that's all that's going to happen, if you're going to transfer stuff from the right to the left side you have to transfer all the other items.

Q Did you have an opportunity to put us on notice of this insufficiency so we can approximately correct it?

A How do you mean?

Q When you wrote the letter you could have calculated all these figures?

A Nobody asked me.

Q Aren't you here to testify voluntarily?

A Yes.

Q You had an opportunity.

A I wasn't asked to testify at that time and prepare any kindof testimony. I wasasked to supply some comments. I supplied some comments, not all the comments that I might have supplied and not in the detail I might have supplied them.

Q Couldn't you tell us we were 10,000 acres short?

MR. KAUFMAN: We have been over this a thousand times, the witness several times testified with respect to this, that it's not his job to prepare the impact

statements,it's the job of the Department of the Interior. This has been done.

THE COURT: Sustained. You could treat this in your brief comparing his testimony with the record.

Q Now, you go on and you talk about in your letter, about the existence of a program?

A Where is this?

Q On page 364. You take issue with the fact that certain government agencies have permitted programs to permit these in the environment; you said this type of approach passes the buck to other administrative agencies and obscures the real issue. We need information of the precise nature and quality of the potential and actual ranges of mitigating ranges?

A That's what the statement says.

Q And yet there are Government agencies with government employees theyhave the expertise regarding permit programs, EPA and Coast Guard and Army engineers; is that correct?

A Yes.

Q And they have the duty under the law to administer the various permit programs; is that correct?

A Yes.

Q And we assume that their duty is being fulfilled

in an honest fashion?

A I didn't question the way in which they fulfilled their duty. I said the fact that the statement does not treat the contents of those programs and the specific type of mitigating factors that should be included means that it is deficient; just to name the programs is not sufficient, that is not the information. Again, that's a sort of obvious information that people know. They know the corps of engineers have a program they needed to know all the other things that that implies, what kind of information you need.

Q And then you state again on page 364, it must be remembered that we do not enjoy the best reputation --

A I didn't write that statement.

Q You lent your signature to that statement?

A I lent my signature to the statement that I submitted, the statements were compiled by another party and they were sent to BLM. I have no idea how that letter was signed, I suppose it was typed. I have not signed such a letter. I merely submitted a component part.

Q By the way, do you know if the state of New Jersey is a party to this litigation?

A I don't believe it is.

Q Do you know if the state of New Jersey when they commented on the draft, and it's published in the final

statement were concerned about land uses and made the point that you are making here?

A I believe they were concerned that the statement wasn't adequate, they made a number of examples. For example, they say -- they were clearly pointing to the fact that they thought the statement had inadequacies.

Q Did they mention the 2,000 acre pipeline and the 2,000 acre platform?

A I would have to reread it again.

Q You don't recall?

A I don't have detailed information. There were many comments that I read.

Q Now, sometime yesterday you mentioned the fact that tanker use as an alternative was not adequately discussed in the statement; is that correct?

A That was a very long involved thing that led up to that. Can you be more specific as to how I referred to tankers.

Q Well, you said --

A I remember one thing. I remember saying that there obviously is a case to be made for pipelines not being feasible and tankers, and you made the point that they may take a pipeline offshore and run around Cape May, in which case I said it would probably be economically unfeasible.

Q Is that discussed in the statement?

A Tanker? There is no discussion about those sort of complications under what conditions might tankering come in. It is assumed that tankering is not desirable, they will run pipelines where economically feasible.

Q I directyou to volume 2, page 20.

A Yes.

Q To the statement that says "If it should not be technically and/or economically feasible to bring production on shore by pipeline, tankers may have to be used. There is a footnote, is that in the statement?

A Yes.

Q Do they cover it?

The fact that tankers may have to be used if pipelines are not used.

A I said as much. They made reference to the point that tankers were not technically an economically feasible, it may have to be used.

Q So it's covered in the statement; is that correct?

A What is covered in the statement?

Q The fact that tankers may have to be used?

A That there is that statement, there is no discussion of all of the reasons why tankers might have to be

used, and if they had uncovered some of those reasons and people might perhaps begin to look a little more critically to the possibility that there might be tankering, but they don't uncover that kind of information, and it's there to be uncovered.

Q Look at the footnote on page 20, the fact that could hinder or prohibit -- might include the following.

A They give three things. I don't think it's unreasonable things.

Q Now, can we agree that the statement deals with the summer population of the coastal areas?

A Inadequately.

Q They say summer people, tourism people are going to go broke?

A That's the obvious information that I referred to earlier.

Q And we can agree the statement covers the water requirements of processing plants. We went over that this morning; is that correct?

A It gives us some specific examples of, I believe, one example of refinery, and one example of gas processing plants, then makes a series of judgments that we talked about that I held to be inadequate.

Q Can we agree there is a discussion about

Q Dr. Mitchell, do you have any knowledge of the extent to which the alleged gas efficiency is due to anti-competitive activities of the petroleum industry?

A No, I don't.

Q Do you have any knowledge as to the extent to which the alleged efficiency is due to the withholding of gas from producible shut-in gas wells?

A No, I don't have that.

Q Do you have any knowledge of the extent to which the alleged gas efficiency is due to the competitive holding of natural gas in anticipation of high prices?

A No, I don't.

Q Do you have any knowledge of the extent to which the alleged efficiency is due to understatement by the natural gas industry of gas reserves and productive capacity?

A No, I don't.

MR. LIKE: No further questions.

EXAMINATION

BY MR. KAUFMAN:

Q Dr. Mitchell, what does the impact statement say about the economic impact, the program, the specific mid-Atlantic program by New York State?

A I think in a technical paper, No. 1, it indicates

that for some years for some parts of the state there would be a net outflow of resources from the -- the state, from those parts of the state.

Q I ask you to take a look at Table III-33, in Volume II on page 280 of the site-specific impact statement.

A Yes.

Q Can you tell me how many kinds of companies are described on that list?

A I believe it says 16. 16 is my count.

Q Can you tell me during the period 1971 to 1973 how many companies related to on- or off-shore oil drilling moved into the city of Aberdeen?

A I believe the number is 236.

MR. KAUFMAN: I have no more questions.

THE COURT: All right. Thank you, very much, Doctor.

(Witness excused)

THE COURT: Call your next witness, please.

MR. LIKE: The County of Suffolk calls as its first witness Professor McHugh.

J O H N L A W R E N C E M c H U G H, called as a witness by the plaintiffs, having been duly sworn by the Clerk of the Court, testified as follows:

(Time noted: 10:05 A.M.)

THE COURT: Good morning, everybody.

Would you ask the witness to take the stand, please?

J O H N L A W R E N C E M C H U G H, having been previously duly sworn, resumed the stand and testified further as follows:

DIRECT EXAMINATION

BY MR. LIKE:

Q Professor McHugh, referring to Exhibits 22 through 146 which reflect the distribution of fishery resources in the Mid-Atlantic area, please tell us what data you consulted to obtain the information depicted on the exhibit?

A These came from the following scientific publications, all by members of the staff of the National Marine Fisheries Service, and these are not in chronological order. They are just as they came to me.

Arthur W. Kendall and John Wriantjaz, 1975.

THE COURT: Excuse me, is that an extensive list, Doctor?

THE WITNESS: There are about seven items, your Honor.

THE COURT: All right, just deem it marked as

46A, or 47 in evidence.

(Document, two-page document, a letter dated July 19th, 1976 from Professor McHugh marked Government's Exhibit 47.)

MR. LIKE: I'm handing the Court Reporters a two-page letter dated July 19th, 1976 from Professor McHugh to myself which identifies each of the references.

THE COURT: Thank you.

MR. LIKE: I'm striking out the last paragraph of page two -- I'm sorry, the fourth reference on page one, the paper by John S. Colton, which was not used by Professor McHugh.

Q Do you have any other corrections to make?

A Strike the last line of -- the first line of the last paragraph.

MR. LIKE: Also striking the first line of the last paragraph.

The first sentence of the last paragraph.

THE COURT: Thank you, very much.

Q Incidentally, in preparation for your testimony did you review the final environmental impact statement?

A Yes, I did.

Q In particular, did you concentrate on any section?

A I concentrated on the section dealing with fisheries.

Q Did you find in the environmental impact statement any of the references from which you drew the information placed upon the exhibits 22 through 46?

A No, I checked the bibliography, the list of literature.

Q Please repeat your answer?

A I checked the list of literature signed against the names on this memo and none of those publications was on that list.

Now, I ought to modify that and explain that it -- that two could not be on it because they did not appear until this year, and there is a -- a caveat attached to this -- this memo which explains that.

Q The two which did not appear until this year appeared on what date?

A I don't know what date, but sometime in 1967.

Q '76, you mean.

A It's the -- 76, yes, it's the proceeding of a meeting that was held at the Brookhaven National Laboratory last November on power and the ocean environment.

Q Were the papers presented at the Brookhaven National Laboratory Symposium?

A Yes, they were.

Q In November of 1975?

A Yes.

Q Did you find in the final environmental statement any charts resembling the exhibits that have been marked 32 through 46?

A No.

Q You mentioned earlier in your testimony yesterday that the species of fish, or a number of the species of fish which are depicted on these exhibits were important and valuable to fishery resources; tell us again, please, which particular species are of commercial value, and if you have any figures as to dollar values I would appreciate your putting those on the record.

A All of the species shown here have commercial value and many of them support the largest fisheries of all in this general area.

In the area from Cape Cod including George's Bank down to Cape Hatteras, it's been estimated that if the fisheries were properly managed, they would support an annual catch of about a million metric tons, and if you want to put a price on it, I think a conservative price would be fifty cents a pound, that would represent an

annual value of about a million dollars.

Q How much?

A About a million.

That's the gross value, of course.

Q Do you have any information as to what the dollar value would be at the retail level if this volume of fish were marketed in the United States at prices prevailing in 1976?

A Well, I'm assuming an average value of fifty cents a pound as a retail value. It goes all the way from Menhaden, at about two or three cents a pound to lobster at I don't know, I can't afford lobster anymore, but I think somewhere about three dollars or three dollars fifty cents.

So that -- that is an estimate, a guess at the retail value.

Q What do you mean when you said if the resource were managed properly it would produce such a yield.

A If -- if the resource is not overfished.

In other words, if there is a management program in operation which allows the fishermen to take only the total allowable catch and not anymore.

If they were to take anymore then the yield would go down rather than increase.

Q Do you have any information as to steps, if any, taken to assure proper management of this resource?

A Well, at the present time this comes under the jurisdiction of the International Commission for the Northwest Atlantic Fisheries, which has been in existence since I think 1950, I think.

It has 15 or 16 member countries, all of whom are fishing in the area, and it carries on research year-round and at least the member countries do -- and it meets once a year to formulate management recommendations to Governments.

Q Do you know whether any management recommendations have been formulated and whether any management recommendations have -- any management recommendations or agreements have been entered into between the United States and foreign interests with respect to this resource?

A Yes, within the Commission for 1976, the fishing year that's in progress now, the Commission recommended an overall -- the Commission recommended individual species quote as on ten species or groups of species, including many of these that are on these charts.

The sum total of those quote as was eight fifty thousand metric tons.

In addition the Commission established what

even greater than the estimated by you --

A Right.

Q -- if dollar figures were assigned to these additional resources.

A Right.

Q Are you familiar with a statute known as the Fishery Conservation and Management Act of 1976?

A Yes.

Q Can you tell us briefly what the purpose of that statute is and what steps are compilated to take -- to be taken in implementation of the provisions?

A The purpose of the Act is to extend our jurisdiction over fisheries out to 200 miles from the coast, from the baseline from which the territorial sea is drawn.

One of the first provisions that will be -- that will be followed is to establish eight regional fishery management councils.

The one in this area would be the Mid-Atlantic Fishery Management Council, which includes six states from New York to Virginia inclusive.

That council will have the responsibility of drawing up management plans and submitting them as recommendations to the Secretary of Commerce, who will either

accept them or comment on them and return them for modification, or if the states do not in a reasonable length of time come up with recommendations that are satisfactory to the Secretary of Commerce he will then take action and the Federal Government will take over.

(Continued on the next page.)

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DIRECT EXAMINATION

BY MR. LIKE: (Cont.)

Q Did you find anything in the final environmental statement which assessed the impact of accelerated leasing or of lease sale 40 on the management planning which has been undertaken pursuant to the Fisheries Conservation And Management Act of 1976?

A No, there is nothing in the Act that deals with this question at all specifically.

Q Nothing in the final environmental statement?

Did you find anything in the final environmental statement which assesses the impact of accelerated leasing --

A No, I don't --

Q -- on the Fisheries Conversation Act provisions?

A I con't recollect that I did.

Q Does the Act contain any provisions with respect to the proportion of catch assigned to the United States in comparison to foreign nations?

A What the Act says, in effect, is that the United States will have -- will have priority over these resources and is entitled to take whatever it can catch, whatever it wishes to catch, whatever it can take, and

that the remainder, if there is a remainder that can be taken safely without damaging the resources, then that shall be allocated to other countries on the basis of individual negotiations.

In other words, the Act will take over from the -- from the International Commission for the Northwest Atlantic Fisheries, and that -- that convention will no longer be operational after the Act goes into effect.

Q Is there any projection that you know of as to the relative proportions of catch that will be taken by the United States and foreign nations in the years ahead?

A It's expected that the United States' share will grow and that the foreign share will decrease. This is a prediction. It -- It depends a great deal on economics though.

Q What is the basis for the projection that the United States will take a larger share of the total allowable catch along the coast?

A Largely public opinion that -- that considers that these fish are American fish and ought to be taken by Americans.

Q Professor, of what value are these exhibits

to a decision-maker?

A Well, I -- I think they are of value in the sense that they demonstrate how widespread these resources are at some stage of their life history, that at some stage of their life history most of them traverse the area where the proposed lease sale might take place, and that they also migrate north and south and east and west with the seasons, so that even if a particular resource is not in the general area of the -- of drilling at one time it could very well be at another time of the year.

The -- I think the -- the basic, most important purpose in preparing these charts was to demonstrate that there -- there were data available which were not used in the environmental impact statement and that if the decision-maker had had this information at his disposal he could have made a wiser decision.

Q Of what specific value, if any, is the depiction of the proximity of the distribution of fisheries to the proposed drilling sites? Of what value to a decision-maker?

A Well, I think first -- first, the most valuable item really would be to demonstrate that there are some extremely valuable resources here that could be affected by accidents that might take place or by any

by-products of the exploration and exploitation process.

For instance, if there were -- if there were a blowout during --

Q Hold it. Would you repeat your answer, please.

A If there were a blowout during exploration it's possible some damage might be done to fishery resources. This doesn't say that it would be done but it demonstrates the possibility. The resources are in the vicinity.

Q Would you please define the term "renewable resources" and contrast it with the definition of a non-renewable resource?

A Well, a renewable resource is a living resource which reproduces year after year, replaces losses due to deaths from any causes, whereas a non-renewable resource is, I think I am correct in saying, a non-living resource which cannot reproduce itself, at least on the time scale that we think about with fishes.

Q Would another way of describing a non-renewable resource be to term it a finite resource?

A Yes.

Q And would the word infinite be a reasonable approximation of the longest of the living resource?

A It would be as long as those resources are being managed properly.

Q Would the fishery resources depicted on the exhibits fall within the classification of renewable resources?

A Yes.

Q Would the oil and gas which is alleged to be located in the proposed lease sale area be considered a finite non-renewable resource?

A On the same time scale as the fisheries, yes it would be -- it would be finite.

Q Would it be of value to a decision-maker to have some basis for comparing the economic value of the renewable fishery resources with the economic value of the non-renewable oil and gas resources alleged to be located in this area?

A Yes, that would make sense to me. I think it would be helpful.

Q Did you find in the final environmental statement any attempt to assess, quantify or compare the economic values of the living resources versus the non-renewable resources of the proposed lease sale area?

A Not that I recollect.

Q Is it possible in your opinion to develop a

standard of methodology and procedure which could be used as a basis for making such comparison?

A Well, I -- I want to make it clear that I am not an economist and I can't make a judgment that an economist would but I think -- I think it could be done.

Q And would the availability of such a standard be a useful tool for the Secretary of the Interior for making an informed decision as to whether to lease or not to lease in the proposed lease sale area?

A I would think so.

Q I would like to turn now to your review of the final environmental statement and your preparation to testify today.

And my first line of questions will concern the data which you looked at in preparing yourself to testify.

Did you have an opportunity to review any additional documentary evidence besides the final environmental statement on lease sale 40?

A Yes, I did, I have looked at the -- I can never remember, the PDOD for the specific site, Program Decision OPeration Document for Sale 40. And I have also looked at the -- the proposal that was made by the Virginia Institute of Marine Sciences to do research for

summary reports of progress on the VIMS contract?

A I have seen three quarterly summary reports in sequence, the first three that have been produced.

Q Based upon your review of this data have you formed an opinion as to the adequacy of the final environmental statement and the adequacy of the baseline studies program instituted by B.L.M. from your perspective as a marine scientist?

MR. JENSEN: Objection, your Honor. Objection, your Honor, the adequacy of the baseline studies program is not in issue here.

I know of no law that would allow this court to review the adequacy of an environmental study that's being conducted by a government agency.

The study formed no part of the Secretary's decision-making process here. The adequacy of that study is simply not in issue, it can't conceivably be in issue.

THE COURT: Well, the claim is that the Secretary and the Government should have studied those things before it made its decision. I will permit it on that issue.

MR. LIKE: You r Honor may also add that the Government has tendered its baseline study program

as its satisfaction of the NEPA requirements and consequently the Government has made this an issue.

MR. JENSEN: I dissent from that interpretation of what the Government has done.

MR. LIKE: The impact statements that have been filed --

THE COURT: Overruled.

MR. LIKE: -- are abundantly clear that this is the Government's position.

BY MR. LIKE:

Q Please tell us, Professor McHugh, what your opinion is as to the methodology employed in the final environmental statement and the methodology which is evidenced by the baseline study program?

A I will address myself only to the fishery section, Mr. Like.

Q Please.

A Because these are the sections I have studied in detail. I think what I consider to be the basic fault in the environmental impact statement, the final envirnomental impact statement, is that it is a catalog rather than a discussion of cause and effect, and it appears to me from my study of the -- of the VIMS' contract that this is simply proposing to extend the catalog and to

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DIRECT EXAMINATION

BY MR. LIKE: (Continuing.)

Q What, in your opinion, is the value of doing a cause and effect type study rather than a cataloguing descriptive study as apparently done by BLM?

A I don't mean it should be done instead of a descriptive study. Obviously, a descriptive study is important, too. But it is only one part of the issue.

What I mean by study is of mechanisms and processes. Things such as that.

We know, for example, that the microscopic copepods that are very important food for young fishes and some adult fishes can ingest particles of oil and apparently pass them through the digestive tract and release them into the environment again. We know very little about the effects of the petroleum products on these animals. And we know virtually nothing about what might happen to the fishes which eat the copepods. So that it seems to me that it would be most important to examine those processes because this would give the decision-maker an additional set of information that would help him to determine and perhaps even forecast more accurately what the effects of petroleum in the natural environment might have on the fishery resources.

Another kind of study that might be undertaken

would be the nature of a control oil spill. And I don't have a detailed plan in my mind. But an oil spill that could be controlled in some way. And then examine the processes, the biological processes that go on under that patch.

Q Do you have an opinion as to whether the approach followed by the Bureau of Land Management in its final environmental statement and in its baseline study program -- withdrawn.

In your opinion, Doctor, is the approach -- does the approach followed by the BLM in its final environmental statement and in its baseline study program have any predictive capability or value?

A No. I don't think it will produce results that will improve predictability significantly.

Q Is the Bureau of Land Management asking the right questions in its baseline study program?

A I suppose that is really what I am saying, that they did not ask all of the right questions in the environmental impact statement.

Q I would like to turn now from your evaluation of the methodology employed by the Bureau of Land Management to its treatment of the data. Do you have any comments as to the adequacy of BLM's treatment of the data as set forth in the final environmental statement and in the other materials

that you have examined.

MR. JENSEN: I object to the form. What data?

MR. LIGHT: The data as to the fishery section, which is the only portion that the professor is testifying to.

THE COURT: Overruled.

THE WITNESS: Yes. I find a number of things that I consider to be deficient. For example, in several places in the statement where the discussion is dealing with individual species, there are graphs showing historic landings, commercial landings in the United States. And those graphs end with 1968.

Now, they could have been extended to at least 1973. Maybe 1974. And, in fact, along with these graphs are tables that do this. But it's curious why the graphs were used at all if they had to stop at 1968. And this led to some erroneous conclusions in some cases.

For example, in the discussion there is mention of the fact that the catches of summer flounder had been declining and that catches of oyster landings have been declining. And yet, if the data up to date had been examined, it would have been very clear to the person who wrote this that, indeed, the abundance and

catches of summer flounder were increasing. and that in two states in the last decade or so, in Maryland and -- in the last fifteen years, oyster production has been increasing substantially. It also has been increasing substantially in New York State in the last eight or nine years.

Q Did you find any -- did you find any information in the final environmental statement regarding the increases in oyster production in the states you have mentioned?

A I did not find anything. It was just a general statement that oyster production has been declining, or words to that effect.

Now, it's true that there's been an overall general downward trend, but that has been reversed in the last ten or fifteen years.

Q Did you find any specific errors as to the figures for oyster production, for example?

A Well, I did find one error which I think also influence the conclusion.

Q What page did you find that on?

A On page 495, the figure --

Q Do you know what volume?

A Volume 1. On page 495 of Volume 1. The figure for 1971, oyster production in Maryland, is erroneous. The

correct figure is a little over 17-million pounds. And I think this page gives -- yes. For 1971, in Maryland, the page gives 1,363,000 pounds. And the correct figure is 17,116,000 pounds.

Q What page is the table at?

A That's on page 435. That just caught my eye as I was going through the table as being a number that was obviously out of line. And it -- what it does is tend to mask the upward trend in production in the last several years.

Q What is the source of your information that the correct figure is over 17-million pounds?

A Statistics published annually by the National Marine Fisheries Service.

Q Did you find any mention in the final environmental statement of the status of the surf clam resources?

A Yes. There was some discussion of it, but largely, again, descriptive, not -- no discussion that I could find of the fact that the resource is almost certainly being overfished and that production probably is going to start dropping fairly soon.

Q Is there any mention of its importance as a domestic fishery resource?

A It's mentioned in terms of the magnitude of

landings and the value of the landings, yes. But no discussion of its domestic importance on the continental shelf. It's one of the most important fisheries out there. One of the most important domestic fisheries out there.

Q Do you have any comments as tothe discussion of the commercial -- discussion of the relative commercial catch of striped bass and sport catch?

A Yes. There is a statement, again inVolume 1, Page 302, and the statement is approximately like this. Well, perhaps I should read it to be absolutely certain.

"The commercial fishery for striped bass is centered in the Chesapeake Bay region. Commercial catch is equaled by sports catch."

Actually, the figures -- the best figures we have seen that the sport catches is six or seven times as large as the commercial catch.

Q What is the basis for your statement that the sport catch --

A Again, statistics publisned by the National Marine Fishery Service.

Q Was there any discussion in the final environmental statement as to foreign catches?

A Yes. Foreign catches are mentioned. But there are no detailed figures given, as I recollect.

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Q In your opinion, did the Bureau of Lands Management use the best available published data from the National Marine Fishery Service sources and from the International Commission of Northwestern Atlantic Fisheries?

A Well, they -- they used some of the best available data but they did not use all of the available data.

Q Do you have an opinion, Professor, as to whether the environmental statement enables the secretary to assess the potential adverse impact of drilling on the marine environment?

A Certainly not on the fisheries.

Q Does it in your opinion enable the secretary to weight the risks and costs of adverse impact on fisheries resources?

A I don't think so.

Q Does it enable the secretary to objectively balance risks and costs against the asserted benefits of drilli

A I don't believe so.

MR. LIPP: Excuse me a moment.

Q I believe you testified that among the documents you looked at was a program decision option document for sale number forty.

A Yes.

Q Do you have any comments as to the discussion of fisheries inthat document?

MR. JENSEN: Objection, your Honor. We object to any questions concerning the PDOD for reasons already stated.

THE COURT: Overruled.

THE WITNESS: Do you have a particular page or pages you're referring to, Mr. Like?

Q Yes, would you turn, please, to pages 12 and 13?

A Unfortunately the copy I have in mind doesn't have any numbers of the pages.

Well, I think the PDOD is -- is equally deficient, because it doesn't cover adequately the possible impact on the fisheries.

For example, on page 13 it says "It is unlikely that sport fishing will be affected at all from activity associated with the proposed sale."

Well, the sport fishers, the marine sport fisheries operate on essentially the same species as the commercial fisheries. Every species that's taken by recreational fishermen is also fished by commercial fishermen, and if there is a danger of damage to the commercial fisheries there appears to be an equal danger of damage

to the recreational fishers, -- fisheries.

That does not necessarily mean that damage would take place, but the possibility remains there.

And the total section in this document on -- on fisheries is -- in this particular section demonstrate -- is lessened -- is less than a page long.

Q I next show you, Professor, visual number four, which is part of volume four of the final environmental statement sale forty and is entitled "Coastal Zone and Off-Shore Fishing," and ask you whether you have any comments as to the usefulness of this map?

A Yes, I don't -- I don't think this map contains very much information at all. It simply gives numbers that are keyed into various species and then shows a series of little short arrows which purport to signify that the fish move or migrate in these directions.

But as a decision-making document it seems to me to be very deficient in that it's almost impossible to extract any precise information from it.

And the thing that strikes me particularly is that the very valuable protected base along the south shore of Long Island, there is not even any evidence that there are any fisheries there at all.

And Great South Bay, for example, supports

one of the most important clam fisheries we have anywhere in the nation.

I -- I think that this information could have been presented in a much more precise way, and -- and -- and in way, that would be much more valuable to the Secretary in making his decisions if it had been done as we have done on these charts.

Q How long did it take approximately to prepare the charts which have been marked in evidence as Exhibits 22 through 46?

A Well, I -- I think it took the cartographer about three days working from the original illustrations in those publications, but it could have been done even more quickly than that if we didn't need to blow them up by simply xeroxing the illustrations in these published papers.

Q Do you recall reading the testimony of Dr. Diehl in this proceeding?

A Yes. I did not hear Dr. Diehl but I read the testimony.

Q Do you recall those portions of his testimony which dealt with oatches and with the co-occurrence of a oatch and oil spill and a phytoplankton mass? ...?

A Yes.

Q Can you tell us whether any patches of the type described by Dr. Diehl in his testimony appear on any of your exhibits?

A Well, there are obviously patches on these charts. I would refer to the third chart from the left on the side wall.

A As an example --

MR. LIKE: With the permission of the Court, will you approach the chart which contains a patch of the type described by Dr. Diehl in his testimony and give the exhibit number for the record?

And if there are more than one chart, it would be helpful if you would identify each of the exhibits.

THE WITNESS: This is charge number 31.

Q Exhibit 31.

A Exhibit 31, I'm sorry.

Here are two patches, one a relatively high density patch of larvae and robins, more than 1,000 larvae in the tow.

Here's another patch, not quite as dense, but still fairly dense.

Q Of what species?

A Of the same species.

Q And there are other examples around the walls.

Would you please identify each of the exhibits by number which contain this type of patch?

A Here again is a patch of Atlantic -- this is exhibit number 32.

Q Hold it.

A These are examples of patches.

Q Will you give us the exhibit number and the patch again, please?

A Exhibit number 32 and this is the patch I was referring to.

Now, I have to -- I have to qualify this again by saying that I -- I don't think these were the kinds of patches precisely that Dr. Diehl was referring to. He was thinking of much -- a much more detailed sampling that was done to produce these charts, and looking at patches from various sizes, from that size to even much smaller sizes.

Q Aside from the detailed nature of the sampling is this the type of patch that Dr. Diehl was describing as part of this form of co-occurrence?

A This would be one type of those patches, yes.

MR. IKE: Thank you.

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The witness is available for cross.

THE COURT: Is there any more direct on this witness?

Do you want to take a few minutes before you begin your cross-examination?

MR. JENSEN: Yes, please.

THE COURT: All right. Take five minutes.

(Whereupon a recess was taken.)

(Continued on the next page.)